

# Items of Interest

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R. Ottolengui,  
M.D.S., D.D.S., LL.D.  
Editor  
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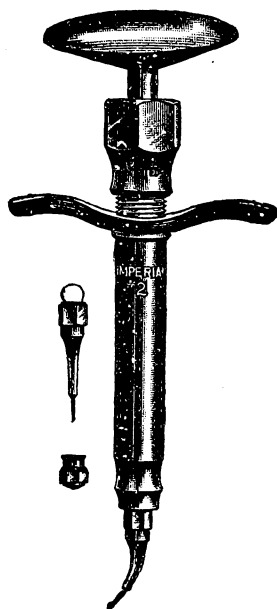
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## Dental Radiography.\*

By HOWARD R. RAPER, D.D.S.,

*Professor of Operative Technic and Roentgenology at Indiana Dental College,  
Indianapolis*

### CHAPTER VII—*Continued.*

- 62. In Research Work to Study Osteology, the Development of the Teeth, Action of Bismuth Paste, Bone Production and Destruction, Changes Occurring in the Temporo-Mandibular Articulation When Jumping the Bite, Blood Supply to Parts, Resorption of Teeth and the Causes for It, Etc.**

The value of the radiograph to the man who is looking for the just-how and why of things is clearly apparent. It obviates the necessity of conjecture, and gives us simple, indisputable facts. Many problems now confronting the dental scientist can be solved only by the intelligent and persistent use of the X-rays.

It is not my intention now to tell of all the different uses to which the radiograph has been and may be put in the broad field of dental scientific research. I could not if I tried. I shall mention but a few.

Dr. Joseph Beck, by the use of the stereoscopic radiographs, is making a comparative study of the pneumatic sinuses of man and the lower animals.

Dr. Johnson Symington and Dr. J. C. Rankin have recently published a book, "*An Atlas of Skiagrams*," illustrating, in twenty radiographs, the development of the teeth and jaws from birth to the age of sixteen years.

I have demonstrated the action of bismuth paste in one case. (Fig. 233.) No definite conclusions should be drawn from this single case. The field of research work along this line is still wide open and inviting investigation.

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## ITEMS OF INTEREST

Bone production and destruction in alveolar abscesses is a matter of which we know entirely too little. A systematic radiographic study of the subject is bound to result in the disclosure of interesting and important facts.

A question, the answer to which is of extreme importance is, "Do alveolar abscess cavities become filled with bone after the abscess is cured?" My ex-

**Figs. 300 and 301.**



Fig. 300.



Fig. 301.

Fig. 300. Abscessed upper lateral incisor, causing disintegration of the built-in bone at the apex of the central incisor. (Radiographed by Schamberg, of New York City.)

Fig. 301. The same as Fig. 300 after treatment and filling of the canal of the lateral. Bone is being rebuilt into the abscess cavity at the apex of the central. (Radiographed by Schamberg, of New York City.)

perience leads me to believe they do; but the new bone is *not* so *dense*, and it is susceptible to ready disintegration as a result of contiguous inflammation. To elucidate: Observe Fig. 300, a case from the practice of Dr. R. Ottolengui. Note the light areas at the apices of both the central and lateral. A cursory observation of the radiograph, and a failure to consider clinical history, would result in the diagnosis of abscess of both the central and lateral. Observe, please, however, that the canal of the central is well filled, while the canal of the lateral is not filled at all. The central had been filled three years previously to the making of the radiograph, and there had been no recurrence of the abscess during that time. The lateral was treated and its canal filled, when all symptoms of abscess disappeared, proving it to be entirely responsible for the trouble. Figure 301 was made one week after the canal of the lateral was filled. What I shall speak of now I fear cannot be seen in the accompanying half-tone; but it can be observed *easily* in the negatives. At the apex of the central there is a disposition of bone in the old abscess cavity. The bone is not as dense as the surrounding structure, and hence the outline

of the old cavity can still be seen; but it is sufficiently dense, so that it can be observed distinctly, and especially well when compared with the cavity at the apex of the lateral, which has not been freed from infection long enough to permit of an osseous formation within it.

Just what changes occur in the temporo-mandibular articulation when "jumping the bite" is still an unsettled question. It is extremely difficult to radiograph this articulation, but it can be done, and it is not unreasonable to expect that some day the radiograph will show us just what occurs.



Fig. 303.



Fig. 304.

Fig. 303. Before attempting to open the maxillary suture. (Radiographed by Lodge, of Cleveland.)

Fig. 304. Same case as Fig. 303 fourteen days later, after attempt to open the maxillary suture. (Radiographed by Lodge, of Cleveland.)

Dr. H. A. Ketcham, of Denver, is, and has been for some time, working in this field of research.

Dr. Cryer, in a recent article on the study of blood supply to the jaws and teeth, printed a radiograph of a disassociated mandible injected with mercury. How well blood supply may be studied by injecting the vessels with bismuth paste, or some other substance opaque to the rays, then making a radiograph is obvious and most encouraging to the student.

The radiographs are of a little girl eleven years of age. They demonstrate the congenital absence of the following teeth: In the upper jaw both lateral incisors, one cuspid and one bicuspid; in the lower jaw three bicuspsids, making in all seven permanent teeth congenitally absent from the jaws. Despite the absence of the permanent teeth resorption of the roots of the temporary teeth occurs, showing that the resorption is not dependent on the eruption of the permanent teeth. I do not make the statement that the temporary tooth roots resorb independent of the succedaneous teeth,

**Fig. 302.**

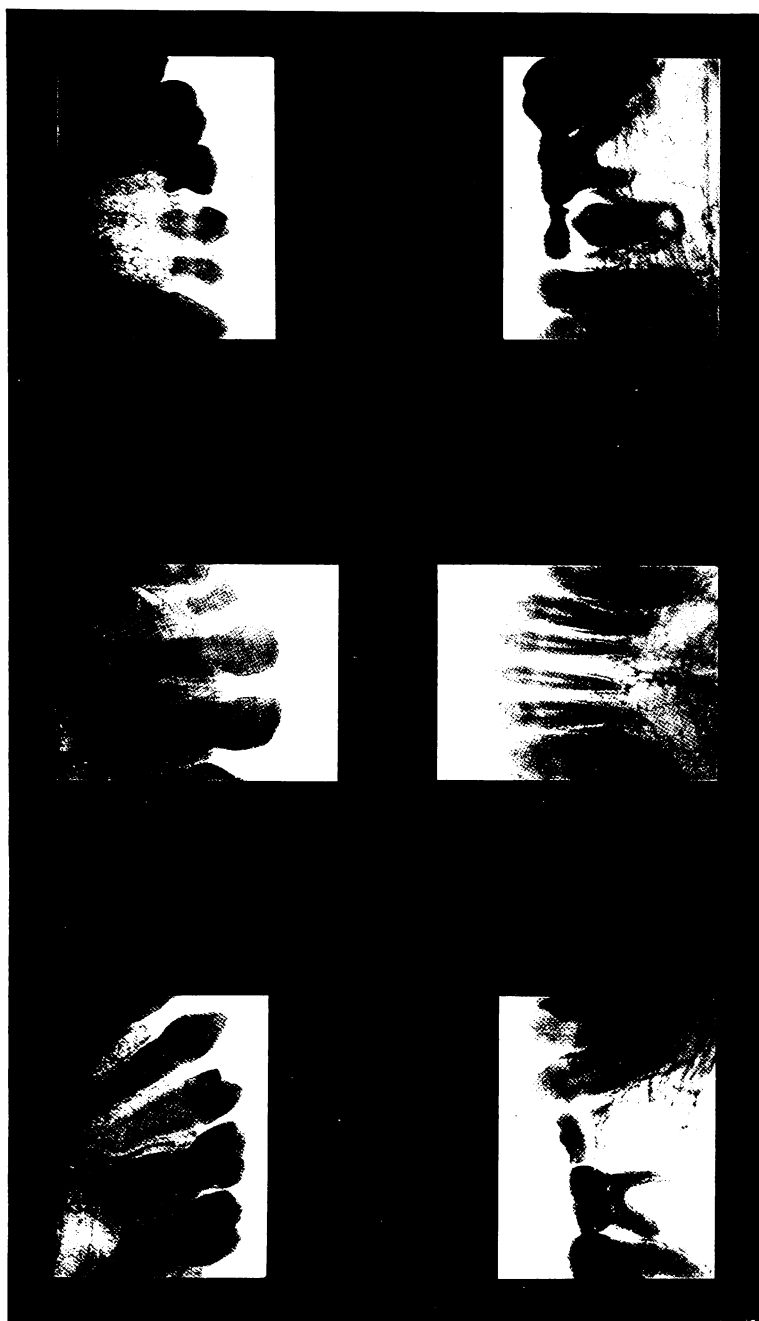


Fig. 302. Radiographs demonstrating the congenital absence of seven secondary teeth. (Radiograph by Schamberg, of New York City. Case: One in the practice of Dr. Ottolengui, of New York City.)

because of what I see in the radiograph in Fig. 302. Figure 302 but illustrates what has been observed in many other radiographs.

Dr. H. A. Ketcham has, with the aid of radiographs, disproven that certain orthodontic procedures caused impaction of the third molars.

**Figs. 303 and 304.** The discussion of the orthodontic procedure of "opening the maxillary suture" is one in which the radiograph is yet playing an important rôle. That

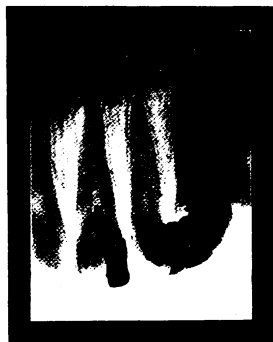


Fig. 305.

Fig. 305. The arrow points to a perforation, through the side of the cuspid root, which has been patched with gutta-percha.

this suture can be opened is claimed by Dr. Varney C. Barnes. Figs. 303 and 304 are from the practice of Dr. Barnes. How wide it may be opened, the permanency of the separation of the bones, and the benefits to be derived from the operation I shall not discuss, but radiography will always be a valuable aid in determining the condition, both before and after treatment.

In the discussion of a paper, read at a dental society meeting, Dr. Don Graham recently said: "If the radiograph has done nothing else it has proven beyond all doubt that the best canal filling in use to-day is gutta-percha."

Likewise radiographs have shown us that, when filling canals with large apical foramina, we would better force a little gutta-percha through the apex rather than to fall short of reaching the end of the root. Of the two mistakes, filling a little beyond or not quite to the apex, the former seldom causes trouble, while the latter almost always results in the recurrence of the abscess.

**Fig. 305.** The radiograph shows an upper cuspid with a perforation to the mesial through the side of the root into the peridental membrane. The radiograph was

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made several weeks after patching the perforation with gutta-percha. There is scarcely any inflammation at all at the point of perforation, showing how well the tissues tolerate gutta-percha.

Under this heading of research work allow me to mention the recent disturbing paper by Dr. William Hunter, of London. Let me say that Dr. Hunter's charge that we, as a profession, practice septic dentistry is well founded. One needs to do but little radiographic work to be fully convinced that the conservative dentistry of which we have been so proud is often a dreadful mistake. It consists all too often of simply treating the case until it becomes a chronic abscess, then, with the abatement of the acute symptoms, calling the case cured. As a radiographer, a man in a position to make extensive observations, I declare that the root canal work of the majority in our profession is a disgrace and a menace to health. Bad root canal work is not usually the result of inability to do the work properly, so let us have hope. It is nearly always due to the fact that the operator *thinks* he cannot get paid for the work. And it is indeed hard to convince a public, which has received its dental education from advertising quacks, of the necessity of receiving and paying for the proper treatment of its teeth.

I would not be understood as saying that I agree fully with Dr. Hunter. I do not. But the doctor is on the right track. He knows there is such a thing as bad dentistry, septic dentistry, being practiced, as do all observing men, especially radiographers.

### 63. *As a Record of Work Done.*

Any sort of a record of work done is always valuable. Radiographic records of canal fillings, extractions and the like are often of the utmost value to the operator. Such records would be of the most gratifying service in the unpleasant event of being tried for malpractice. A patient, let us say, finds it necessary to go to the hospital for a week after the extraction of a badly impacted third molar. The next thing the operator knows is that suit has been brought against him. He learns that he "broke the jaw-bone," and that the patient is to remain a "helpless invalid for the balance of her life," because of "his lack of skill, his ignorance and brutality." Radiographs of the case showing just what had been done for the patient might prevent the suit or win the case for the operator.

In cases where the patient is seized with a decided disinclination to pay a dental bill the radiograph may sometimes be used to advantage. These patients usually suffer from the loss of memory, and tell the judge that the plaintiff is quite mistaken in imagining that he filled their root canals. Radiographs would go far toward convincing the judge of the validity of the claim.

#### 64. In Cases of Hidden Dental Caries.

The "diagnosis of hidden dental caries by means of radiographs" was suggested and recommended by Drs. H. W. C. and C. F. Bodecker in a short unillustrated paper printed in the *Dental Review*, April, 1912. I quote a paragraph from the article referred to. "The diagnosis of caries in its first stages on the proximal surfaces of molars and bicuspidis is often difficult, and frequently patients complain of sensations at points where we cannot discover caries either with floss silk or explorer. Separation then has to be resorted to, in order to definitely locate the trouble. Sometimes the patient is not able to point out any single tooth in which he notices the sensation; he simply tells us that it is 'somewhere on that side,' and passes the finger over two or three teeth. Another factor which makes diagnosis difficult is reflex pain. Frequently the irritation is in an upper tooth, and the patient experiences the pain in a lower one, and *vice versa*. Therefore, to obviate the useless separation of teeth in locating small carious spots, we have used the Roentgen apparatus. It would, nevertheless, be a useless expenditure of time and work to radiograph two or three teeth in the upper arch, and if no defect had been found to repeat the same in the lower. We have, therefore, constructed a film holder by the aid of which the crowns of the bicuspidis and molars of one side can be photographed at one time."

Personally, I have never put the radiograph to the use suggested by the Doctors Bodecker, but it is my intention to do so.

And so—we have passed over the uses of the radiograph in the practice of modern dentistry, and it has been a long trip. Permit me to repeat what I said at the beginning of the chapter, for you are now better able to understand and believe me. Of the uses for the radiograph enumerated, some are of cases that the general practitioner of dentistry may not be called upon to diagnose or treat oftener than once or twice in a lifetime, perhaps not at all; but by far the greater number are of cases the like of which we meet almost daily in the practice of dentistry.

There is a popular belief among dentists at large that the use of the radiograph is indicated only in the baffling, the exceptional, the iconoclastic cases in our practice. This is not true. It is a fact that the radiograph, in a spectacular manner, has been responsible for the diagnosis and cure of many baffling cases. But I am tempted to say that this is unfortunate. For the radiograph does not always solve the mysteries of the refractory cases, though practitioners of dentistry and medicine pay it the embarrassing and unfair compliment of expecting it to do so. The radiograph's most potent value in dentistry is in the ordinary, the everyday cases which come to our offices—in cases of impacted teeth as an aid in extraction; in cases where the apical foramen is very large as an aid



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in filling the canals properly; in cases where apical sensitiveness may be due to a large apical foramen or an unremoved, undeveloped remnant of pulpal tissue; in cases of retained temporary teeth to learn if there be succedaneous teeth present in the jaw; in cases of badly decayed teeth of the secondary set in the mouths of children to learn if the roots of the diseased teeth are fully formed; in cases of abscess to determine which tooth is affected; in cases of traumatism, and so on. It is in these cases, met constantly, that we may use the radiograph and derive the greatest assistance and benefit. In baffling cases we will often be disappointed in our use of the radiograph, but in the ordinary cases, such as I have just enumerated, never, for we know just what to expect, and we do not expect too much.

It should ever be borne in mind when using the radiograph for diagnostic purposes that it is only an *aid*; in many cases the greatest aid we have, but, nevertheless, only an aid in diagnosis. No other methods or means of diagnosis should be forgotten or slighted.

When the use of the radiograph fails to reveal the cause of the trouble it is not fair to look upon its use as of no assistance or value. For example, a patient is suffering from false ankylosis. Judging from the symptoms we suspect an impacted lower third molar to be the active cause. We make a radiograph and fail to find an offending third molar or anything else that might be responsible for the ankylosis. It is natural that we should be disappointed, but we must not feel that the radiograph has been of no service at all, for we now know that an impacted third molar is *not* the cause of the trouble, and we have taken an important step in diagnosis by elimination.

In printing the great number of radiographs, which have appeared in this chapter, it is inevitable that some should not be good. It must be remembered, too, that *only an idea* of what can be seen in negatives can be learned from half-tones. It has been most discouraging to the writer to observe, at times, the great loss of detail in the printed half-tones, as compared to the original negative. I wish to state most emphatically, however, that with the rarest exception the loss of detail was not the result of incompetency on the part of the makers of the half-tone plates. This most complete collection of dental radiographs ever made has been transferred from the photographic print to the half-tone in a masterful way, and its failure to be perfect represents only the shortcoming of the process itself.

Misinterpretation of radiographs is one of the easiest things in the world and, for this reason, I can already hear, in imagination, the cries of condemnation of the disappointed ones who will, within the next few years, take up dental radiographic work. I believe that no one who has

ever done radiographic work has experienced disappointment more often, or more keenly, than I have. But every radiograph ever made is the product of simple physical and chemical laws, and when misread the fault usually lies in the reader.

Very often it is expedient to make several radiographs of the same part, changing the pose slightly to verify or disprove the findings in the first picture of the part.



Fig. 306.



Fig. 307.

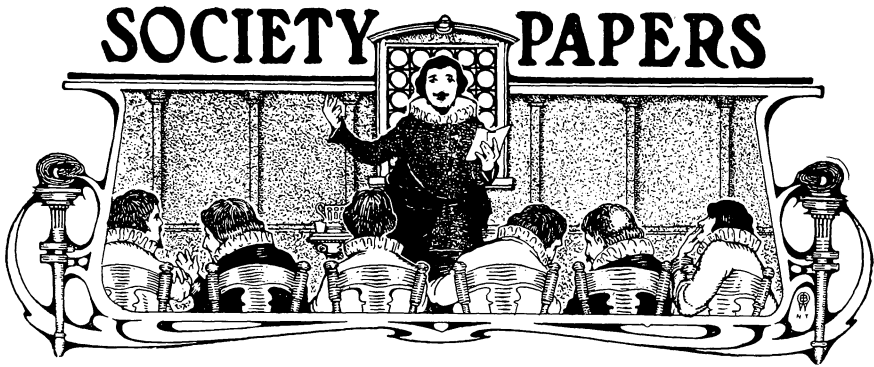
Fig. 306. The arrow points to the ends of what might have been mistaken for a line of demarcation.  
Fig. 307. The same case as Fig. 306, proving the line seen in Fig. 306 to be a fault in the film.

Figure 306 is a case from which a first molar tooth and sequestrum had previously been removed, because of arsenic poisoning. The radiograph was made to learn if all the sequestrum had been removed. It shows to the inexperienced reader what would appear to be a line of demarcation and a large sequestrum involving the lower border of the mandible. The line, however, has not the typical appearance of a line of demarcation and the sequestrum (?) does not look like diseased bone. Two more radiographs (one of which is shown in Fig. 307) were made and show no line, proving the line on the first picture to be a fault in the film.

When I started this chapter I expected to close it by quoting words of praise for the radiograph, spoken and written by the leading men in the dental profession. I shall not take the space to do this, but shall tell you simply that I could if I wished. I shall quote but one man who, in an impromptu discussion, voiced the sentiments of all. Though he is a specialist in oral surgery, he speaks as well for the orthodontist, the extracting specialist and the general practitioner. Dr. T. W. Brophy said "Now that we have the X-ray picture to help us, I do not see how we could possibly get along without it."

The greatest argument in favor of the use and value of the radiograph, however, does not lie in the enthusiastic and inspiring remarks concerning its value, but in the irrefutable facts set forth and illustrated in this chapter.

Seldom, indeed, is the use of the radiograph in dentistry a matter of life or death to the patient, though it may sometimes be, but often, often indeed, does health and happiness depend on its use.



### **Some Systemic Causes of Pyorrhea.**

By D. W. BARKER, M.D.S.

*Read before the Second District Dental Society, at March Meeting.*

The causes of pyorrhea are commonly classed as local and systemic, the local causes being calculus and its consequent unhealthy environment. Of this class it is not the purpose of this paper to treat. They are found in patients usually under forty years of age and yield readily to local treatment, which is the only kind the dentist can give, and constitute the large and growing list of "cures" reported by the pyorrhea specialists.

The systemic causes may be subdivided for present purposes into two classes; first, those having for their origin ptyalism, scurvy, Bright's disease and the gouty rheumatic diathesis and perhaps others, and, second, those having for their initial cause a weakening of the vitality due to advancing years with a consequent impairment of the capillary circulation, and the lowered power of resistance to disease.

How far the systemic diseases just mentioned are responsible for pyorrhea it is difficult to say, but they must be a large factor in the problem. We know that mercury will cause the loosening and falling out of the teeth; so will the scorbutic taint. The rheumatic or gouty diathesis has been credited as a large contributing factor, though many pyorrhethics of the worst type declare they have never had it, and many rheumatics do not have pyorrhea. Dr. Rhein has, I believe, assigned Bright's dis-

ease as a frequent cause. The diseases themselves are often obscure and may be unsuspected and denied, or intentionally concealed by the patient. At any rate they are obviously beyond the reach of the dentist who can only treat the local conditions—in other words, “treat the symptoms.” Of course the hidden cause remains and, therefore, only a limited and temporary improvement of local conditions can be obtained in this class of cases.

**Age an  
Etiological Factor  
in Pyorrhea.**

We come now to a consideration of the second, and by far the largest, contributing factor of the systemic causes of pyorrhea—the lessening of vitality due to age. That advancing years does bring a lessening of vitality cannot be denied. This is shown in many ways; the individual yields more easily to the attacks of disease; does not respond so promptly to treatment and recovers more slowly; the circulation is feebler and the powers of assimilation and elimination are impaired. The tissues partake of the general impairment and are subject to diseases that do not attack them in youth. The dermoid tissues especially, of which the teeth are a part, show an impairment of the capillary circulation; cancer becomes more frequent, and peripheral poverty is shown to the extent of finger nails wasting from inanition, the falling out of the hair and the phenomenon we know as pyorrhea. Lack of vitality is for these the initial lesion and the presence of calculus but the secondary cause. This explains two phenomena that cannot be explained in any other way. When there is no impairment of vitality we find calculus, but no pyorrhea. When there is impairment of vitality but no calculus we find pyorrhea without the calculus.

**Effects of  
Treatment.**

Of course the cause in these cases like the preceding systemic causes is beyond the reach of the dentist, for, like the physician, he cannot turn back the hands on the clock of time and, therefore, the benefit derived from his treatment will be an improvement in the local conditions more or less permanent according to subsequent care. Moreover the amount of improvement will be just in proportion to the extent to which local conditions are responsible; if local conditions are largely responsible and impaired vitality very little, the improvement may be so considerable as to be called a “cure.” If the local conditions are very little responsible and impaired vitality very much the improvement will be very little and short lived.

I am aware that at present impaired vitality is not recognized as a cause of pyorrhea, but dentistry is the only field of pathology that I know of that does not recognize diminished vitality as a factor in disease.

## Rheumatic Fever and the Contribution of a Septic Mouth and Carious Teeth to Its Cause and Cure.

By ALONZO MILTON NODINE, D.D.S., New York City.

*Read before the Second District Dental Society, at March Meeting.*

Rheumatic fever is a fast and furious disease, when it is fast and furious, and slow and meandering at other times, and the province of arthritis seems to be to impart an insufferable emotion with a pain that gives rise to profound and profane expression.

As rheumatic fever is not caused by organic spontaneous combustion, but is produced by a definite agent or agents, we will brush away cobwebs of yesterday, and give our attention to the consideration of rheumatic fever, with all the seriousness that makes it so pertinent to the dental profession.

There have been as many theories advanced to account for the phenomena or symptoms exhibited, in what has hitherto been termed "rheumatism," as there have been advanced theories to account for dental caries. Much of the confusion and complexity of defining and restricting rheumatic fever has been due to the inclusion in that designation of many aches and pains, swellings and indolences about joints, muscles and tendons, with heart lesions that properly belong to and are the result of other infections and conditions (7).\*

So clear your minds of any preconceived ideas of what "rheumatic fever" is, and focus your attention on the following definition:

**Micro-organisms of  
Rheumatic  
Fever.**

Rheumatic fever is an acute, and maybe attenuated, general infection, accompanied by toxemia (22) and usually auto-intoxication, with a variety of local manifestations, principally arthritis and carditis, for which salicilate of soda seems to be a specific (1, 8, 9, 11, 14).

Since rheumatic fever has been defined as an infection, the determination of the micro-organism causing the infection is of considerable importance. Many British, German and American pathologists and bacteriologists now agree, that the micro-organism most concerned is a diplococcus of the streptococcus class. This has been labeled the *diplococcus rheumaticus* (1, 10, 16, 47, 48). It has been found in the joints and synovial fluid, heart and pericardial fluid, blood and meningeal fluid of those who had rheumatic fever (5, 10). Cultures, taken from these localities, have been injected into rabbits, dogs and monkeys, pro-

\*The numbers in brackets refer to the works consulted, which will be found listed at the end of this article.—Ed.

ducing results similar to those found in the human subject, i. e.: poly-arthritis and teno-synovitis, endocarditis and pericarditis, multiple valvulitis and chorea, plastic pleurasy and subcutaneous nodules (5, 10, 20, 23, 24).

It is equally true of this affection, as it is of other infections, that the whole train of symptoms and effects are not produced by one type of micro-organism, but are the result of the combination of two or more different micro-organisms. This does not reduce, in the least, the force of conclusion that the predominating lesions and symptoms are the result of the activities of the *diplococcus rheumaticus* and its toxine.

Referring again to the first part of the definition, rheumatic fever is an acute, and may be attenuated, infection. It has been further noted that it occurs in epidemics (3), sometimes as many as five in one family becoming infected (43). Mantle, who in 1877 first called attention to the fact that rheumatic fever was an infectious disease, writes: "I seldom see a case of rheumatism but that on inquiring I learn of other members of the family having been affected with it." This is evidence that it is not only an infection, but that it is also communicable from one person to another. Epidemics of rheumatic fever are frequently preceded by an epidemic of sore throat (1, 2, 1A).

That this is an acute infection is indicated by the sudden onset and irregular temperature, vacillating between 100° and 103° (27), accompanied by rapid swelling, pain, redness, and migrating arthritis (2, 46). Rheumatic fever may assume a chronic form, and this form is as common to it as to other infections.

Referring again to our definition we will consider the local manifestations. In children the affections of the heart are more important and prominent than the arthritis (2, 14). This in the ratio of 9 to 8. In adults the arthritis is the more marked lesion, and occurs in the proportion of 2 to 1 of the heart lesions (3, 20).

The joint affections are rarely of a permanent or deformed character, as occurs in *arthritis deformans* (25). But there is a formation of nodules over the tendons, extra articular fibrous thickening, and subcutaneous fibrous nodules on fingers, elbow and hand. The arthritis is of the migrating (21) and poly-arthritic type (2). The heart affections produced are principally endocarditis and pericarditis, with mitral insufficiency (1, 10, 3, 4, 45).

#### **Coxemia.**

In the definition it was noted that the infection is accompanied by a toxemia (22). Toxemia is the condition produced by the absorption of the poisonous excretion of micro-organisms, called a toxine (27). A toxine produces an effect distinct and apart from the endotoxine or residual poison-

## ITEMS OF INTEREST

ous substance in the body of the micro-organism (10, 27). Toxines seem to have an affinity for the nervous system and produce their effects through that agency and in the heart. In rheumatic fever, chorea and mild delirium are frequently present (2, 3). The heart lesions are due as much to the effects of the toxine as to the micro-organisms (1).

That there is an auto-intoxication is very evident from the fact that there are the almost constant symptoms of dyspepsia (11) and constipation (6). These induce and promote intestinal putrefaction, with the formation of poisons, toxines and ptomaines (31).

In the growth of the *diplococcus rheumaticus* formic acid is produced (10, 22, 47). Formic acid is also a product of the splitting up of a substance called lecithin (27). Lecithin especially is found in calf's brains and eggs, but it may form an ingredient of any highly nitrogenous food. The effect of formic acid is to cause a loss of tone in the cardiac muscle, leading to a general dilation of the chambers of the heart (22). In this way it contributes to the causes producing the heart lesions so prominent in rheumatic fever.

The ptomaine cholin is formed from the decomposition of lecithin (27). This ptomaine is one of the things held to be responsible for the attacks of epilepsy (27). It is not unreasonable to believe that it may contribute to the production of chorea and the mild delirium so frequently noted in rheumatic fever. This toxemia also produces a high blood pressure (51) by altering a change in the muscular walls of the arteria.

Anæmia also precedes or accompanies rheumatic fever. This may be due to faulty metabolism, induced by intestinal putrefaction—the result of dyspepsia and constipation—or it may be due to the added effect of the infection and toxemia (1, 2, 3, 9, 11, 38).

These concomitants suggest a solution of the problem of the multiplicity and diversity of symptoms exhibited in rheumatic fever and may reconcile to that designation other types of so-called rheumatism.

As the mouth is the portal of entry for the infection, we will consider this phase in a field that interests us as dentists. The conviction has very generally been reached that the tonsils act as foci for the absorption and dissemination of the infection and that their enucleation has frequently effected a cure (3, 11, 12, 22, 26, 31, 40, 48, 49, 32, 50).

Nevertheless, since the infection of the tonsils comes from the mouth, the conditions of the mouth and the location of the possible, probable and frequent foci of infection in the mouth should receive attention (36, 44).

There are several apparent places in the mouth in which micro-

### **The Mouth as the Source of Infection.**

organisms may be sheltered, propagated, absorbed and disseminated; their toxins and products manufactured. Cavities in carious teeth, food left upon and between teeth, crowns, bridges and plates, and pus pockets formed by calculus or any irritation causing gingivitis and pyorrhea alveolaris. These depots supply the infection for the rest of the body (13, 27, 30, 31, 48, 49, 50).

One investigator in England in an examination of 1,000 children five years old, found that of those who had had measles only 20.9 per cent. had sound teeth. Among those who had not had measles 43.9 per cent. had sound teeth. The interval between the examination of the teeth and the attack of the measles was so short, that the only reasonable conclusion that could be reached was that the carious teeth contributed to the infection. This same investigator found that the children with badly decayed teeth, even at this age, weighed less and did not attain the same height as those having sound teeth (52). If carious teeth can play so positive a part in contributing to the infection in measles, and influencing the growth and weight, why may not carious teeth play the same part in the infection of rheumatic fever, or any other infection? (32, 34, 39, 42, 48, 49).

Again let me call your attention to an editorial in the *New York Medical Journal* February 24, 1912, which says: "Victor Greer Best, a candidate for the degree of M. D. in the University of Dublin, choose for the subject of his thesis 'Serum Vaccine Treatment for Pyorrhea Alveolaris.' There is no doubt in the author's mind of the connection between pyorrhea alveolaris, appendicitis, rheumatism, rheumatoid arthritis, gastro-intestinal infection and other related conditions. This author attributes to the *streptococcus conglomeratus* and the *diplo-streptococcus rheumaticus* the principal cause of pyorrhea alveolaris. It seems the medical profession might well study this not uncommon condition from this pathological viewpoint."

In the mouth the following events take place:

1. The entrance of germs on food, drink, air and contact with common things.
2. The harboring and propagation of micro-organisms and the secretion of their toxins.
3. The absorption of micro-organisms and toxins from pathological and abnormal surfaces by blood and lymph streams.
4. The dissemination of micro-organisms to the outside world by means of the secretions of the mouth—the sputum.
5. The dissemination of micro-organisms to the rest of the body via the gastro-intestinal and respiratory tracts.

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6. The decomposition and putrefaction of food resulting in the production of ptomaines and poisons.

7. The absorption from the pyogenic mucous membrane of the mouth of these toxine ptomaines and poisons, or the sending on to the gastro-intestinal tract the accumulated results of this putrefaction.

The combination of these conditions and processes accompanied and initiated by carious and septic teeth constitutes oral sepsis, as the speaker understands it.

The harboring and propagating, the absorption and dissemination of the diplococcus concerned in rheumatic fever and the other germs associated with it is easily accomplished under this condition of oral sepsis.

The infection and encouragement of abnormal tonsils and septic mouths are further magnified by mouth breathing, induced by deformity of the dental arches and malocclusion of the teeth.

"Of all the diseases characterized by serious complications and consequences, acute articular rheumatism is one of the most important."

"It should be considered next in importance to tuberculosis among the diseases of early life" (21A).

"One of the commonest diseases of children which the medical man is called upon to treat."

An examination in London revealed that 6.83 per cent. of the children in four schools in the senior departments between the ages of 7 and 15 had rheumatism (33).

Eight per cent. of the 5,000,000 school children examined in England required operation for abnormal tonsils and adenoids (33).

In 43.6 per cent. of the cases of rheumatism in the four schools mentioned there existed abnormality of the tonsils or pharyngeal mucosa, or both.

The proportion of tonsilitis and adenoids requiring operation is four times as great in rheumatic children as in school children generally (23).

One child out of fifteen from the age of 7 onward attending the elementary schools is rheumatic, and 87 per cent. of these have some consequent affection of the heart (34).

Again 75 per cent. of the cases of rheumatic fever occur between the ages of 4 and 20 years, in which the decay of the teeth is most rampant.

Conceding that oral sepsis exists, is it not probable that decomposition of food may take place in the mouth, with the formation of cholin and other unidentified ptomaines and poisons? Does not the propagation, dissemination and absorption of the micro-organisms concerned in the cause of rheumatic fever and other infections take place from the ab-

normal surfaces, superinduced by the united efforts of the factors named? Does this not constitute, or does not the accumulated effect of these conditions constitute, a very direct cause of rheumatic fever and of other infections? Or let me put it in another way: Is not the natural and normal resistance of the human organism undermined and broken down through the inability of the gastro-intestinal tract to assimilate fermented, infected, unmasterated food? Does not this combination of conditions supply the proper factors to promote intestinal putrefaction, with the formation of the toxins, ptomaines and poisons before mentioned?

Granting that these conditions produce the results and symptoms previously stated, will not the correction of oral deformities, the eradication of necrotic roots, the obliteration of cavities of decay and the restoration of proper masticating teeth and the institution of correct hygienic measures for the mouth, be a very potent factor in the prevention and the cure of rheumatic fever?

I. Rheumatic fever is an acute or attenuated  
**Recapitulation.** general infection accompanied by toxemia, auto-intoxication, chorea, high blood pressure (51), anemia, carditis and arthritis.

II. The micro-organism and its toxine most concerned in the stimulation of the particular symptoms evidenced in rheumatic fever, is the *diplococcus rheumaticus* of the streptococcus family.

III. The portal of entry for the infection is the oral cavity.

IV. Oral sepsis plays a direct part in the causation of rheumatic fever by supplying the necessary conditions and ingredients for the absorption via the gastro-intestinal tract of the factors concerned in the excitation of the symptoms exhibited.

V. Oral sepsis plays a direct part by supplying the necessary conditions also for the absorption from the mouth of the agents that induce the train of symptoms manifested in rheumatic fever.

VI. The correction of the conditions contributing to oral sepsis will exert a positive and favorable influence in preventing and curing rheumatic fever.

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## Balanced Alloy Manipulation of Amalgam and Cements.

By C. M. McCauley, D.D.S., Abilene, Texas.

*Read before the South Dakota State Dental Society, 1912.*

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The status of amalgam in our profession is far from satisfactory. It is the most popular and useful material at our command, and should be the best understood; whereas, it is perhaps the least understood of all filling materials in use. It is a common thing to see amalgam fillings only a few months or a year or so old, which have discolored; the edges have become ragged and the filling protrudes from the cavity, or caries has begun under or around the filling. In some cases when our own amalgam fillings return to our office a year after insertion, we are ashamed to claim them as specimens of our skill. Such conditions need not, and should not, exist. They are a poor recommendation for a learned profession, which feels proud of its rank in the world of science and art. The behavior of amalgam has appeared to be so different under seemingly like conditions, that we have come to look upon it with a feeling of suspicion and distrust. The uncertainty of its action is due solely to defects which can be eliminated. The alloy that behaves so unseemly was not made properly, or else the filling was not correctly amalgamated or manipulated. There is no excuse for our fillings to turn black and render the

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teeth unsightly. There is no excuse for their margins to break and become rough, nor for changing their shape after insertion. Dr. G. V. Black recognized all these facts many years ago, and during the years of 1894-95-96, he conducted a long series of experiments leading to their solution. When he had finished his work he reported the same through the *Dental Cosmos*. This report was so plain and easy of comprehension as well as highly scientific, that the profession everywhere accepted his work. For a time following this date there was a great deal of discussion of the amalgam question. A great demand grew up among the leading members of our profession for an alloy made according to the ideas promulgated by Dr. Black. This demand resulted in a few of our leading manufacturers sending their alloy makers to Dr. Black for instruction in amalgam making. Some unscrupulous manufacturers began getting out alloys made by "Dr. Black's Formula," etc. Let me say that *Dr. Black has never given the profession nor any manufacturer a formula for making a dental alloy*. He has no formula, nor has he ever had one. On the contrary, he teaches us that a set formula applicable to all grades of metals, which we unavoidably get from the market, is an impossibility. I have proven the truthfulness of this teaching, which I will show you on the screen a little later on.

For the convenience of this paper I will classify the evils found in our amalgam work under two headings:

1. Errors of Manufacture.
  - (a) Shrinkage and expansion.
  - (b) Flow.
  - (c) Lack of strength.
  - (d) Discoloration and recurrence of caries.
2. Errors of Manipulation.
  - (a) Flow.
  - (b) Lack of strength.
  - (c) Discoloration and recurrence of caries.

Let us see what is the cause of all these errors, and how they can be prevented:

Of all the defects found in amalgam fillings, **Shrinkage.** shrinkage comes first. Shrinkage is produced by a failure on the part of the manufacturer to use the proper metals, and the exact proportions of each, or his failure to properly alloy the metals or anneal the fillings. Any one of these causes is sufficient to produce fatal shrinkage, and where more than one, or perhaps all of them, appear in an alloy, there is no wonder that excessive shrinkage occurs. Many of the commercial alloys show excessive shrinkage when the fillings are measured in the micrometer.

## Metals To Be Used.

Silver and tin constitute the basis of all dental alloys. The exact per cent. of each depends upon the quality of the metals. Inasmuch as the quality varies, the proportion must also vary. Were the metals absolutely pure, a balanced silver-tin alloy would contain about  $72\frac{1}{2}$  per cent. of silver and  $27\frac{1}{2}$  per cent. of tin. Such metals cannot be obtained within the reasonable reach of the dentist. The more the silver lacks in being absolutely pure the higher the percentage must be. Should the formula lack one-half of one per cent. of silver, shrinkage would be seen in the filling, silver being the metal which overcomes the shrinkage of the tin. The principle of balancing alloys is that silver expands and tin contracts, and the expansion of one must be exactly sufficient to counteract the opposing movement of the other. We therefore conclude that the proportion must be carefully ascertained for each batch of metals made up. Copper is the only metal with which silver-tin alloys can be improved. As much as 5 per cent. of copper may be used to produce better strength. Alloy frequently contains zinc, and many times a percentage of gold is claimed. These metals are positively detrimental to the alloy containing them in any percentage.

## Alloying

Faulty alloying may result in parts of the ingot having a different proportion of metals from what was used in the beginning, thus perhaps producing shrinkage in one filling and expansion in another. After carefully proportioning the metals, the silver and copper are melted together first, cooled and reduced to sheet form. These sheets are cut into small pieces and placed in the crucible with the tin. Heat is gradually applied, and when the melting begins stir the metals well. As soon as all solid particles have gone into solution, cut off the heat and pour the ingot. Overheating disturbs the balance in the metals by the formation of a chemical compound known as entecticons, and must be avoided. Oxidation during melting will also disturb the proportions of the metals, as tin oxidizes more readily than silver. Oxidation is prevented by excluding all air from the crucible while melting. This can be done by passing hydrogen gas into the crucible and over the surface of the metals while alloying.

## Annealing.

Annealing is nothing more than exposing the alloy to heat. A fresh cut alloy, which will not shrink in a filling, can be made to shrink several points by annealing. Age produces the same effect as annealing, but requires more time; hence, an alloy which will not shrink when first cut will show shrinkage after setting in the supply house or in the cabinet for a time. The longer it stands around after manufacture, the more shrinkage will occur, until the zero point of shrinkage is reached. By this we mean the

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point at which more heat or greater age will not produce further shrinkage. In the temperate zone about one year's age anneals an alloy to zero, while 15 minutes in boiling water produces the same effect. It is therefore clear that an alloy fresh cut is not practical for daily use, on account of this change going on constantly for an uncertain length of time. It is further clear that if a manufacturer fails to completely anneal a batch of alloy, it will continue to shrink for a time until the zero point has been reached.

Shrinkage and expansion are therefore due to the technique of manufacture, and can be prevented only by the use of very delicate and accurate instruments for balancing metals, and by proper alloying and annealing. A very few manufacturers are equipped with the necessary instruments and requisite training for making a truly scientific alloy. The great majority are made by guess and in a haphazard manner. Some of the highest priced and most lavishly advertised are actually the most nearly worthless from a standpoint of conserving tooth structure.

**Flow.** Flow is a term first used by Dr. Black. By it we mean the continued flattening under pressure until the object pressed upon assumes the form of a disk. Tin possesses this property in a marked degree, while silver does not flow. Formulas rich in tin flow very badly, and may cause a creeping out past the gingival margin in approximal cavities. My tests have been made by using 50 pounds pressure for one hour. Some alloys on the market to-day, for which the profession pays a fancy price, flow as much as 20 per cent. and 25 per cent., while a properly proportioned and balanced alloy will show only from 1 per cent. to 2 per cent. Flow is governed to an extent by the kind and proportion of metals composing the alloy.

**Lack of Strength.** The manufacturer's part in the production of strength is the use of right metals and the degree of annealing. If an alloy is over-annealed its strength is reduced. If kept on hand until it becomes over-annealed by age, its strength is impaired in proportion as it grows older.

**Discoloration and Recurrence of Caries.** This brings us back to shrinkage. Moisture around the filling causes discoloration, because of the action of sulphureted hydrogen contained in the moisture, on the silver or copper in the filling. Moisture cannot enter around the filling unless a space exists. Therefore, discoloration will not occur, granting that proper manipulation is used, unless the filling shrinks. Recurrence of caries results from the same defect, only a larger space is required for the entrance of micro-organisms than for moisture. Discoloration and recur-

rence of caries is prevented by scientifically balancing the metals, and by correct manipulation.

**Manipulation.**

The property of flow may be regulated by the operator as well as by the manufacturer. Too much mercury increases flow. There is no regular percentage of mercury applicable to all alloys. Some alloys require less than 40 per cent. of mercury, while others require 60 per cent. or more. More silver in the formula calls for more mercury. The alloys which take the mercury quickly and easily are either old or contain a shortage of silver. Avoid such alloys. The soft velvety kind should by all means be avoided. A good alloy takes the mercury rather slowly and reluctantly, requires about 55 per cent. of mercury and sets quickly. Also insufficient condensation invites more flow.

**Lack of Strength.**

Proper proportion of mercury has to do with strength. Too much mercury produces flow, while an insufficient quantity results in brittleness. Correct proportion of mercury should be determined by making fillings of different percentages and testing each for flow and strength. When the right percentage for a certain alloy has been determined, it is well to weigh a quantity of alloy and place in capsules, some containing about 8 grains, and others 12, and still others 16 grains of alloy. Mercury should be weighed in quantities to suit the different sizes of alloy capsules and placed in separate capsules. If a quantity of each is thus put up it is ready for use at all times. By following this plan, not only will we acquire better strength and less flow, but we shall be able to perfect the technic of mixing to the point where much better condensation is possible, and the walls and margins of the cavities are more perfectly covered. Approximately the same plasticity may be acquired in every mix, and like setting and working qualities secured.

**Recurrence of Caries.**

Again we return to the space between the walls and margins, which must be present before discoloration or recurrence of caries can take place. This space is not only created by shrinkage in the filling, but also by the failure of the operator to pack the filling perfectly against the walls and margins of the cavity. Such adaptation is best acquired by securing proper plasticity in every case. If the mix is stiff we fail in getting perfect adaptation, as shown many times upon removal of the matrix when we find places on the margins where the amalgam has been poorly adapted. On the other hand, if too much mercury is present and the mix is too thin and sloppy, we cannot get the amalgam to remain against the walls and margins when placed there. It will follow the plugger when withdrawn from the cavity; besides there is a tendency in

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these sloppy masses to globulate and draw away from the margins while setting.

The best way to secure proper plasticity is always to weigh the mercury and alloy. Use sufficient mercury, so that when crystalization begins the mass is only wet enough to show plain finger marking when pressed between the fingers. The mixing should begin in the mortar, and should be removed to the dry palm as soon as the mercury has taken up the alloy. The rubbing should be brisk from this stage to the beginning of crystalization. Where the correct quantity of mercury is present the mass will work quite dry when first placed in the palm. Brisk rubbing will soon bring the mercury to the surface, and continued kneading will tend to show too much mercury, but very soon the apparent excess will begin to disappear, and when the crackling sound is plainly heard, there is no excess of mercury, and the mass is ready to begin the filling. The alloy will now work beautifully, will permit of splendid adaptation to the margins and cavity walls, and no excess of mercury will appear on the surface of the filling while packing. The amalgam sets readily when the packing has ceased, and the filling can soon be shaped and trimmed to the desired form and smoothness. At a later sitting a bright, smooth finish should be applied with strips and disks, finishing with pumice stone. Such a finish is very essential to the durability of the filling, and contributes much to its appearance.

### **Manipulation of Cements.**

Oxyphosphate of zinc: The non-hydraulic variety and the hydraulic require different treatment in manipulation. The one is indicated where dryness can be maintained until the cement has set; the other where moisture can be brought into contact very soon after stiffening begins. The principal difference is found in the liquids; the non-hydraulic liquid containing less water and, in most cases a larger proportion of sodium. The sodium causes slow setting, some pores, less strength, but greater adhesion. The lack of water causes slow setting and expansion during setting. The hydraulic liquid contains more water, is not so heavy, and has less of the phosphates in the solution. This class of cements requires more water for crystalization than is contained in the liquid, therefore must be subjected to water during setting. These cements require gradual mixing, and thorough spatulation. The powder should be added in six to eight portions, spatulating each portion well. The first portion added should have the most thorough mixing of all. It should be spatulated until every particle of powder has been taken up by the liquid and the mass becomes smooth and free from perceptible granules. Thorough spatulation and sufficient time at this point permits the formation of zinc phosphate, which acts as a cementing medium to hold

together the zinc oxid granules which are not acted upon by the phosphoric acid. The remaining portion should be added a little faster, only allowing time to incorporate each portion to a smooth consistency. When the consistency of heavy cream is reached, where the mixture drops from the spatula reluctantly enough, enough powder has been added for crown and inlay setting.

If a filling is desired place a small portion of this thin mix to one side of the slab for lining the cavity, and continue adding powder rather rapidly until a putty-like consistency is reached. Line the cavity with the thin mix and make the filling with the stiff mix, shaping it to the desired form and contour.

The hydraulic and non-hydraulic cements require the same technic of manipulation up to a certain stage. When the hydraulic has well begun setting, when the excess around the edges show stiffening, moisture should be brought into contact with it in order to secure the best results, while the non-hydraulic must be kept dry until quite hard.

Oxyphosphate of copper, when properly manipulated, makes a very strong and enduring filling. The same technic applies as in the oxyphosphate of zinc up to the stage where the mass begins to show a medium degree of stiffness, and works heavily under the spatula. This stage is indicated when the mix drops lazily from the spatula when held above the slab, flattening or spreading slowly when dropped on the slab. When this stage is reached no more powder should be added, but spatulation should continue till the mass shows a considerable degree of stiffness; not too stiff, however, to smear into the cavity. When mixed in this manner it sets rapidly, and I have made fillings in form of  $\frac{1}{10}$  inch cubes that stood up under more than 250 pounds' pressure.

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## The Gingival Tissue and Its Important Functions.

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By H. E. FRIESELL, D.D.S., Pittsburgh, Pa.

*Dean of the University of Pittsburgh.*

*Read before the S. A. M. Convention, Atlantic City, N. J., June 20, 1912.*

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If the bones of the jaw be examined it will be observed that the alveolar process surrounds the roots of the teeth only to a point approximately two to three millimeters from the line of junction of the cementum and enamel. This line is called the gingival line. The periodontal membrane surrounds the root of the tooth, not only filling in the space between the wall of the alveolus and the root, but also extending crown-

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wise on the root to the gingival line. In other words, all of the cementum of the root is covered by peridental membrane, but all of the cementum is not surrounded by alveolar process, the root portion of the tooth protruding from its socket from two to three millimeters.

Covering the alveolar processes, investing the necks of the teeth, and extending around a considerable portion of the enamel-covered crown is found a soft connective tissue, containing many white fibres and forming a firm membranous mass, which is continuous with the deeper lying periosteum on the outer sides of the alveolar process, is firmly attached to the peridental membrane at the necks of the teeth, its unattached or free margin extending occlusally for some distance from the gingival line, hugging the enamel of the tooth tightly, but having no attachment thereto. These soft tissues are called the gums, and are covered by a strong outer coat of squamous epithelium, known as the mucous membrane.

The free margin of the gum which extends occlusally from the gingival line, hugging the enamel tightly, but having no attachment thereto is called the gingiva. This is the tissue which we are to consider.

The crownwise extension of the gingiva differs in various mouths, its length being from one to four millimeters. It is longest in youth, diminishing as age advances. While it fits closely around the gingival third of the tooth crown, a thin, flat instrument may easily be passed between it and the enamel to its attachment at the gingival line, the gingiva thus inclosing the immediate gingival margin of the enamel. In young persons we often see one-half of the length of the crowns of the teeth buried in the gingivæ even after the teeth are regarded as fully in place. As age advances the gingivæ become shorter, showing more of the crown and finally recede to very near the gingival line.

The gingivæ also fill the inter-proximal spaces in the form of septa, passing between the teeth from labial, or buccal, to lingual. This portion of the gingivæ, which Constant terms inter-dental papillæ, is much longer than that on the labial and lingual surfaces of the teeth. In normal conditions it reaches from the gingival line to the contact point between the teeth, completely filling the space and preventing accumulations of debris. The form presented by the gingivæ on the labial and buccal surfaces is a series of imperfect semi-circles with the concavity toward the occlusal surfaces of the teeth, and with the points of junction of these extending into and filling the inter-proximal spaces. On the lingual side of the arch, the conditions are much the same, but the points of the gingivæ between the teeth are less prominent. As age advances and the gingivæ recede toward, or even to, the gingival line, the septa of soft tissue fail to fill the inter-proximal spaces. This may induce pathological conditions by af-

fording space for lodgment of debris in pockets, which favors fermentation. A like condition is also induced frequently by a faulty form of approximal contact, or through the flattening of the contact points by wear, which allows food to be forced into the inter-proximal space and break down the gum septum by its pressure.

This arrangement of the soft tissues around the teeth, the covering of the gingival third of the axial surfaces and the filling of the inter-proximal spaces, appears to be a peculiar provision on the part of nature; and as nature does not develop an organ without a definite purpose, let us consider the possible advantage of such an arrangement of the soft dental tissues.

#### Functions of the Gingiva.

The mouth, with its ever-present conditions of moisture, heat and suitable pabulum, makes an ideal incubator for most classes of micro-organisms. The gums, covered by their layer of mucous membrane, which serves as a protective epithelium, seem to be immune to the influence of mouth bacteria; but the peridental membrane, a deeper tissue, which is never normally exposed to the secretions of the mouth, is readily infected when such exposure occurs. Carefully compiled statistics show that more teeth are lost after twenty-five years of age through disease of the peridental membrane than from all other causes combined. They also demonstrate that, aside from alveolar abscess caused by infection through the root canal, 99% of peridental diseases begin at the gingival border. The first step in disease of the gingival border of the peridental membrane is inflammation of the gingiva with subsequent relaxation of its fibres, when, instead of hugging the tooth tightly and preventing the entrance of anything from the mouth into the gingival space, it becomes loose, a pocket forms, food matter and micro-organisms collect and inflammation of the peridental membrane occurs, which, if not cured in its incipiency, is followed by pyorrhea and the ultimate loss of the tooth. Your essayist, after considerable study of this disease, believes that every case of pyorrhea is preceded by a gingivitis and relaxation of the fibres of the gingiva, the formation of a pocket in the gingival space and infection from the mouth.

As long as the gingiva is normal and healthy, pyorrhea cannot occur. Considering that so large a percentage of our work consists of the treatment of this disease, and that pyorrhea when once fully established is incurable, is there any dental tissue more necessary to preserve than the gingiva, whose healthy condition makes pyorrhea impossible?

If we again examine a normal skull we see that while the teeth touch at their approximal surfaces, at what are called contact points, spaces of considerable size, termed inter-proximal spaces, occur between the necks

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of the teeth. It is unnecessary at this time for us to consider the function of these spaces; suffice it to say that where they are of improper form and size the efficiency and longevity of the denture are proportionately impaired.

Examination of a healthy mouth will show these spaces to be filled with the gingiva to the height of contour of the axial surfaces. To this portion of the inter-proximal space that is occupied normally by the gingiva, or gum septum, Black has given the name "septal space." So long as the septal space is occupied by healthy gingiva, food matter will not become packed therein, with its subsequent fermentation, caries of enamel, gingivitis and periodontal disease. But when anything interferes with this normal gum septum, some, or all, of the conditions mentioned rapidly follow.

Long experience and careful observation on the part of intelligent operators indicates that caries of enamel never begins beneath a healthy gingiva, and that when decay has commenced on the unclean gingival half of a tooth surface, its spread on the enamel surface stops at the gum line. No definite reason for this inhibitory action of the healthy gingiva upon dental caries has ever been given except possibly the observations recorded by Black in his work on "*The Periosteum and Periodontal Membrane*," published in 1887, wherein he calls attention to a slight secretion developed by the gingiva in the gingival space. Your essayist has noted a similar inhibitory action exercised by the gingiva on the progress of erosion, and in the study of a great many cases of that disease has seen numerous instances where the gingival extension of the erosion stopped at the gum line; but he has never seen a case where the eroded area extended beneath the gingiva.

If the gingiva can be maintained in a healthy condition pyorrhea will be prevented and some of the more serious lesions of dental caries such as proximal, gingival, and senile decay, can to a large extent be avoided. The important functions of the gingiva being established, what steps can we take to insure its proper maintenance? Obviously by considering the conditions that give rise to its injury and by taking measures to avoid or prevent them.

What conditions threaten the health of the gingiva:

### **Dangers to the Gingiva.**

*First:* Faulty contacts between approximating teeth. These may be due to poor contour of the tooth (thick necked teeth); the flattening of the contact points into surfaces of contact by the lateral wear of the teeth from years of use in mastication; the loss of the occlusal third of the teeth from abrasion caused by the excessive chewing of tobacco; undermining of contact

points by decay; failure of the dentist to reproduce the proper rounded form of contact point on approximal filling or the approximal surface of a crown or inlay. Faulty contact points permit food to be forced through the contacts and to impinge on the gingiva, causing successively, discomfort, inflammation, recession, gingival pockets, etc.

*Second:* Another class of conditions inimical to the gingiva might be termed "Get-Rich-Quick Operations." These are usually performed by the dentist whose slogan while a student was, "No theory for me please! Give me practical dentistry only," and whose whine, after years of operative failure, is, "They didn't teach us any better in college."

These are the conditions where, from excessive approximal decay, the teeth have moved together mesio-distally, the inter-proximal space has been largely obliterated and the approximal surfaces are in contact almost from gingival line to marginal ridge. The embrasures are greatly constricted; there is practically no septal space, and the gingiva has been squeezed back to the gingival line. The operator is too busy, or too lazy, or too ignorant to appreciate the conditions, or too incompetent to remedy them; so for some, or all, of these reasons he fills or crowns the tooth in the manner that causes him least inconvenience, and the patient retires more injured than benefited, carrying with him one more of the innumerable dental abortions that give rise to the well-meant strictures of a Hunter, or other critics, and cause the conscientious practitioner to blush with shame for such crimes committed in the name of dentistry.

When our leaders, our scientists, point out the importance of the approximal space, the necessity for separation, proper contour, contact point, form and size of septal space, even that fundamental therapeutic principle based on the pathology of caries of enamel, viz: "extension for prevention," do we welcome them as teachers who come to show us how to save teeth, how to become proficient in our calling? Or, do we rather, metaphorically, crucify them as theoretical heretics who come to make our work more difficult? Meanwhile we salve our professional conscience by proclaiming how much of the patient's tooth structure, and time, and money we have conserved, until another teacher comes along and shows us what promises to be an easy way of transmuting wax fillings into gold ones; or a method of filling teeth with a paste that the oral secretions and the stress of mastication—the laws of physics and the laws of chemistry—cannot distinguish from enamel; then we forget all about the necessity for conserving tooth structure or the patient's time and money, but cut as far as may be necessary for the mechanical steps of the operation, and apparently charge the patient in proportion to the size of the filling, or the ease with which we hope to make it.

The restoration of the mesio-distal breadth of the inter-proximal

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space; of the concavo-convexity of the approximal surfaces; of the rounded contact point; of the wide-open buccal and lingual embrasures; of the properly placed height of contour; the extension of cavity outlines to areas protected by the scouring of the food, or the contact of healthy gingiva; the maintenance of the integrity of the gingival line and the attachment of the periodontal membrane at that point—these are some of the commandments of the gospel of scientific dentistry, and they cannot be neglected with impunity.

Anything that interferes with the normal size and form of the interproximal space, such as the conditions cited, or improperly adapted crown bases, or crown bands, excess of filling material left at the gingival portions of cavities, where it will not be seen (until the tooth is extracted) and where it is “too much trouble” to properly contour, one and all of these conditions preclude the possibility of a healthy gingiva.

*Third:* Other conditions that must be guarded against are injury to the attachment of the gingiva at the gingival line by the improper use of ligatures; the placing and maintaining of a rubber dam in position for a considerable time without previously cleansing the field of application; the neglecting to remove salivary or serumal calculus; the improper use of scalers in such removal, whereby the operator's ignorance of the location of the gingival line results in his severing the attachment of the periodontal fibers at that point; any use of finishing instruments, disks or strips that injure the gingiva; and finally the extending of the gingival wall of a cavity beyond the gingival line, as is very likely to be the case where the gingival wall is made concave from the occlusal, as is done in round bottomed cavities.

The improper use of the toothpick by the patient in his endeavor to dislodge impacted food from faulty interproximal spaces is also a prolific cause of injury to the gingiva.

Any of the conditions enumerated may be sufficient to start a train of lesions that will ultimately result in the loss of the teeth. And not only this, but some of the seemingly simple exposures of the periodontal membrane through injury of the gingiva are sufficient to permit of an auto-intoxication of the patient which not infrequently gives rise to serious systemic disturbances, or complicates already existing general disorders, and retards recovery therefrom.

With these things in mind is it not high time that we devoted more serious thought to the gingival tissues and their proper treatment and conservation?

The first step in the examination of the mouth should be a careful study of the gingival tissues, and any slightest departure from a healthy appearance should be investigated and the cause removed. Repair of



lesions of the hard dental tissues is a simple matter compared to the alleviation of advanced lesions of the soft dental tissues, and as the health and usefulness of the teeth depend very greatly upon healthy soft dental tissue, therefore the intelligent study and treatment of the gingiva becomes our primary duty to our patients.

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### President's Address.

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H. F. HOFFMAN, D.D.S., Denver, Colo.

*Read before the Colorado State Dental Society, at Colorado Springs, June, 1912.*

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First of all I wish to make acknowledgment for the support and assistance which has been rendered and for the uniformly harmonious relations that have existed during the past year between the officers and the committees, and for the devotion to the interests of the association which all have manifested.

In former times the dentists in different localities have considered it a privilege to have the association meet in their town, and have deemed it their duty and obligation to provide entertainment for the association. We are very much indebted for many pleasant outings which have been provided in this way, but the growth of our society, together with the growing demand to meet outside of Denver, now renders any provision for any local entertainment at the expense of local men an imposition, if not an actual hardship.

The society has from time to time appropriated funds from the treasury to offset a portion of such expense; but the annual dues are no more than sufficient to meet the running expenses of the association; and besides the members who are unable to attend the annual meeting should not be called upon to pay for the entertainment of those who do attend, for which reason no money should be taken from the general fund for this purpose.

It has been provided that this year all participating in our outing shall pay their own individual expenses, and I recommend that such a plan be adopted always.

The oral hygiene movement, which is reaching a more sane and reasonable status, demands especial attention from the profession at this time, as the report which is to be presented by the Oral Hygiene Committee will explain. At the last annual meeting an Oral Hygiene Committee of two was created, and an appropriation of \$100 was made for the purchase of an

#### **Oral Hygiene.**

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exhibit and the preparation of a public lecture. Owing to lack of funds in the treasury it was found necessary to limit the demand of this committee to practically half of the amount appropriated, and in order to further the work of the committee the directors thought it expedient to increase the committee to three members.

Since the demand for oral hygiene lectures was from limited areas only, it was thought best to place the expense of the work upon the districts interested. In furtherance of this plan the oral hygiene work has been made self-supporting. I believe that this work can and should be self-supporting during the coming year, and I recommend that the amount remaining unpaid of the original appropriation be cancelled and that no further funds be taken from the treasury for this purpose.

I further recommend that an Oral Hygiene Committee of three be maintained, whose duty it shall be to revise the present oral hygiene lecture and be prepared to have it delivered wherever there is a demand for it; and to further the oral hygiene work in any way consistent with the dignity of the profession; and that the terms of office of the members of the committee be so arranged that one new appointment to the committee will be made each year.

### **Investigation Into Cause of Brown Stains.**

At the last annual meeting a committee was appointed to continue the investigation of the prevalence and cause of the brown stains, and an appropriation of \$150 was made for the use of the committee in carrying on the work. As in the case of the appropriation for the Oral Hygiene Committee it was found necessary, owing to lack of funds in the treasury, to limit the expenditures of this committee to practically half of the appropriation. By combining the work of these two committees the expenses, especially traveling expenses, were materially reduced, so that the actual work of these committees has been little, if any, hampered by the curtailing of the expenditures; and there is now an unpaid balance of the appropriation for the "brown stain" work.

I recommend that the unused balance of the appropriation for this committee be ratified at this meeting; but that the payment of it be left entirely in the hands of the Board of Directors, with instructions to make such proportion of it available for the use of the Brown Stain Committee as the funds of the society and the needs of the committee may demand; and that no authority be given the committee to incur any indebtedness for the society beyond such amounts as the Board of Directors may specify.

I recommend that the present committee be continued, and while nothing should be done which might in any way hamper the work of this committee, still this is such a very serious problem to our patients,

to our profession and to the welfare of our state, that I cannot but feel that the membership of the committee should be increased. A larger committee, provided that its members give thought to the subject, and are possessed of logical and scientific qualifications, could certainly add materially to our knowledge of the subject, and might enable us sooner to have this affliction under control.

**Revision of  
Constitution.**

A Committee on Revision of the Constitution, consisting of the President, W. A. Brierley and W. P. Smedley, was created two years ago and continued at the last annual meeting with instructions to prepare such revision of the constitution for submission to the society as might be necessary for affiliation with the National Dental Association, when that body shall have reorganized.

This committee will make a report at this meeting, to which close attention should be given, especially to that portion of the report which deals with the subject of establishing a National Relief Fund.

I recommend that the continuation of the work of this committee be delegated to the Board of Directors with authority to authorize the president to appoint a special committee for this work, in case such be needed, and that a full report be made to the society at its next annual meeting.

**Process  
Patents.**

Events which have transpired in the last few years have demonstrated the need of amending the patent laws of our country, so as to afford protection from process patents as applied to the healing arts, and a bill protecting the profession from process patents is now pending in Congress, to which the support of this association should be given. I recommend adopting a resolution favoring the bill and urging its passage, and that the officers be instructed to communicate the sentiment of our society to our various Senators and Congressmen, and also to the committee in Washington having charge of the bill.

**Enforcement of  
the Dental Law.**

At the last annual meeting a new committee, the State Board Advisory Committee, was created with the object of establishing more intimate relations between the State Board of Dental Examiners and the Colorado State Dental Association; to place at the disposal of the board such assistance in the performance of its duties, as it may be in the power of the association to give, and which assistance the board has a right to expect; and to report to the association upon all matters coming under the dental laws of the state.

Although in undertaking such a work some time must naturally be consumed in determining the exact duties of the committee, and in



## ITEMS OF INTEREST

harmonizing the various interests concerned, this committee has already made an excellent beginning and its report should receive your most careful consideration.

This brings us naturally to the subject of most importance to come before the association, namely, the State Board of Dental Examiners and the enforcement of the dental law in this state.

The Colorado dental law is a very good law. It contains no objectionable features. It has been sustained by the Supreme Court, and the feasibility of its enforcement has been demonstrated.

There are a number of additional features which are desirable and which would greatly increase the efficiency of the law; but these desirable additions are merely such as are intended to simplify for the board the work of enforcing the law, and the need for these features in our law should neither be allowed to stand for an excuse for failure to enforce the law, nor to convey the impression that the law as it stands is a failure, for it is not.

Failure to properly enforce our law is not directly due to any fault in the law, but to the general lack of aggressiveness on the part of almost all of our State Dental Boards, and to injudicious combinations in the appointments made to the boards.

The ability and competency necessary to the practice of dentistry do not necessarily insure efficiency as a member of the State Board, and while selections from different sections of the state appear as a just and equitable distribution of so-called honors of representation, still time has demonstrated that such distribution only works to the detriment of the efficiency of the board.

The absence of financial remuneration is frequently offered as an excuse for indifference in the performance of board duties; but the office is one which is rather sought for than otherwise, and it is certainly not unreasonable of the profession to demand the faithful fulfillment of obligations which are voluntarily assumed.

For years the condition of our state, so far as the enforcement of the dental law is concerned, has been deplorable, and in the selection of the three members of our next board, which is provided for at this meeting of the association, the reputation of the state demands that every consideration be made secondary to that of efficiency.

For this reason I recommend that a committee be appointed, or selected, whose duty it shall be to recommend to the society previous to the election of the members, the names of three men having special fitness for the work and who can be depended upon to accept appointment on the State Board of Dental Examiners. And, furthermore, I recommend that the members appointed on the State Board by this society be

required to report to the society or to the State Board of Advisory Committee upon request; and that in order to still further increase the efficiency of the next board, all three men recommended by the society should reside in Denver.

Since the first thing necessary to the better enforcement of the dental law is the establishment of the board upon a more permanent basis; and since experience has demonstrated the advisability of attempting only small additions to our law at a time, I recommend that the next attempt at dental legislation be confined to the creation of a more permanent board, i. e., that the membership comprising the board be appointed to serve for five years and that the term of office be so arranged that one new appointment can be made each year, and that all members appointed to the board be recommended by, or appointed by, the association.

Since I am no orator, in this address I have adhered strictly to the practical matters of business which should properly come before this meeting of the Colorado State Dental Association, and which are worthy of your close attention.

Thanking you for the honor you have conferred upon me and thanking you for your loyalty and aid in all things pertaining to the association, I again recommend the subjects already mentioned for your most careful consideration.

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## Prevention and Early Treatment of Pyorrhea.

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Geo. Y. WILSON, D.D.S., Colorado Springs.

*Read before the Colorado State Dental Society, at Colorado Springs, June, 1912.*

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Early in February of this year our president wrote Dr. Burton, of the Executive Committee, as follows: "Secure for the coming meeting a paper from Dr. Wilson on some live subject of his own choosing, as he will likely have more enthusiasm if he selects something in which he is deeply interested." June seemed a long way off, and I promised. In casting about for that "live subject" and the one in which I am "deeply interested" I naturally chose pyorrhea. "Why keep harping upon that subject?" I hear some one say. "Why not give us something new?" Well, in the first place, I think it the most important subject in dentistry; and, secondly, the successful way of treating the disease is *new* or comparatively so. But the more I work with pyorrhea the more thoroughly convinced I am that the best way to cure this "cursed disease of the human race" is to prevent it. A prominent member of our profession gives as his opinion that fully ninety-five per cent. of pyorrhea is due to local



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causes; if this be true, we should make a greater effort to remove or prevent these causes. I have nothing original to offer; I am simply trying to pass on a few suggestions picked up here and there which have proven of value to me, and hope that some of them may be of some value to some of you.

The field of dentistry has widened. At first, confined to the extraction of a tooth; to-day every effort is made to prevent extraction. A great wave of oral hygiene is spreading over the land. Germany has taken the lead in this movement, but our own country is a close second. Mouths are being cared for as never before. For individuals who cannot afford the expense of dental service, provision is being made in the way of free dental clinics; and the time is not far distant when it will require double or treble the number of dentists we now have to even begin to care for mouths and teeth in the manner in which they should be cared for. We are entering on an era of "New Dentistry." The "Old Dentistry" is passing away. Prevention is now the watchword, and will in time largely do away with the repair work which has been done in the past.

### **Preventive Treatment for Pyorrhea.**

Can pyorrhea be prevented? A few practitioners have demonstrated conclusively that it can, but the majority of even our best men have not in the past even given this branch of our work the attention which it deserves. Among the diseases which afflict the human family, pyorrhea has come to be one of the most dreaded. This disease has come down through the ages, depriving rich and poor alike of their teeth, and causing no end of systemic ills. And now we are told that it is an inexcusable disease, and that if dentists and patients will co-operate and do their duty, that the great majority of cases can be prevented. When should this preventive treatment begin? It would seem that the proper time would be when the temporary teeth are first making their appearance.

In years gone by a dentist was not called upon to be more than a skilled mechanic, combined with some of the qualities that go to make up an artist. He had to know something about medicine and a little about a dozen other subjects. But it is only within a few years that he has become a teacher as well. In fact, it has been said that "a dentist must be an educational center around which from three to five hundred people revolve." He must first of all teach the gospel of oral hygiene to himself, and practice it. Then, he must enlighten the physician as to his duties in the matter of oral hygiene. Physicians have done wonders along many lines in the way of prevention. Scientific research has taught them that an ounce of prevention is worth tons of cure. The public looks to the

physician for guidance, but in the matter of caring for mouths or rather in teaching mothers and nurses the care of mouths, he has shown woeful ignorance. Dr. M. L. Rhein says: "When the time arrives that the man who is graduated from the medical college will have been taught the principles of dental practice, we will not have any more pulps to destroy or abscesses to treat."

In many instances the dentist does not see the child until there has been a sleepless night for both child and mother. Now, the physician usually sees the child at very regular periods from the time of its birth, and if he but realized the importance of mouth hygiene, he would be in position to teach the mother and the nurse the first lesson in properly caring for these little teeth as soon as they erupt. Toothache would become an unknown quantity in most cases and childhood caries would be largely prevented.

Of course, where the dentist has charge of the mother's teeth, he is the right one to give advice as to the proper care of the child's teeth, and this advice the average mother will gladly follow. If the dentist would but take the time and pains to explain in detail how very important it is that all the surfaces of every tooth in the child's mouth, as well as the gums, be kept clean at all times! The mother of to-day is different from the mother of ten years ago. She is eager for suggestions and instructions along the line of mouth cleanliness, and it is often surprising to what length she will go in her endeavor to carry out these instructions in detail.

**Prophylaxis  
for the  
Temporary Teeth.**

If our teaching as physicians and dentists has been in earnest and the mother has been thoroughly impressed with the importance of the oral hygiene idea, she will, when the child is three years old, take him to her dentist for regular and systematic oral prophylaxis. At the time of the first appointment, it is wise to do little more than get acquainted with the child; get him interested in other things; say very little about his teeth, and make another appointment. At the second visit, if the child is at all inclined to be nervous, ask the mother to take the chair and hold the child in her lap (that is if the mother is calm and not too much of a talker); then make a more thorough examination and do a very little in the way of polishing his front teeth. All this takes time, but it will mean the saving of time in the long run, for in most instances by the third appointment, the child's confidence will be established, and we can go ahead and do whatever is necessary, being careful, of course, not to tire him too much by making the sitting long and uninteresting. I like at this sitting to select a number of teeth, say five, go over all the surfaces of these with the hand polisher and pumice,

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freeing the surface from all green and other stains and accumulations of any sort. If there are fissures in the molars, they should be thoroughly freed from all foreign substances, and after drying, filled with a thin mixture of copper cement or the oxyphosphate of zinc. If decay has started in these fissures remove as much of this as possible with excavators, rarely ever using the engine, until the child is older, and fill with amalgam, having first lined the cavity with oxyphosphate both for protection and retention. All interproximal spaces need careful watching, and it has been found that if the teeth are polished at frequent intervals by the dentist, with what care the child receives at home, there will be very little decay.

However, there will always be neglected children. There will always be mouths where the teeth will decay in spite of all that can be done. In these mouths, fillings must be made just as soon as the teeth show the first signs of decay. Sometimes, where there has been considerable loss of tooth structure at the interproximal space, it will not only be permissible, but advisable, to use gold inlays, thus restoring the teeth to their natural form and preventing the gum tissue from being injured by the impaction of food. When we feel satisfied that the mouth has been put in as good condition as is possible the patient is dismissed for a month or two months, as the case may be, with the understanding that he is to come to the office for an examination and treatment when notified. It is important to keep a systematic record of these cases and summon them by letter or telephone. The interval between appointments will depend largely on the health and habits of the child. If this course is carefully adhered to throughout the life of the temporary teeth, the child should reach the permanent dentition without the loss of a single deciduous tooth or of its full usefulness, and provided with the space needed for the proper eruption of each permanent tooth.

### **Prophylaxis for the Permanent Teeth.**

While the preventive treatment for temporary teeth is important, it is vastly more important that the permanent set be carefully cared for. From the age of five to the age of fifteen is the most important time in an individual's dental history; yet during this period we usually find the most neglect. Children are brought to us with sixth-year molars so badly gone that there is little hope of saving them, and many times there is nothing to do but extract; thus a case of malocclusion is started and with malocclusion, it is almost impossible to prevent pyorrhea.

Dr. McManus says that four-fifths of the trouble for which orthodontists are treating children to-day could have been prevented if the

nurses and mothers had done their duty, which they did not realize, because they had not been informed by the physician. Dr. Hoff says we have too many profesisonal orthodontists, and not enough general practitioners who are giving the needed attention at a time when it would count most in preventing these unfortunate malformations. Malocclusion is another result of profesisonal neglect that is censurable rather than commendable, as it is practiçally preventable by proper care of children while their teeth are erupting. He further states that the dental practitioner is responsible for a large percentage of the cases of malocclusion. We see, in most of these cases, very simple treatment at the proper time would be sufficient. He says he finds that most dentists tell their patients that teeth which are evidently in improper positions will in time be forced into their proper relation by the other emerging teeth. The main trouble is that most dentists are too easily satisfied, and do not place sufficient importance on exact occlusal relations in every instance.

There is no cause which brings about more malocclusion than does the early loss of the first permanent molars. There is no cause which brings about more pyorrhea than does malocclusion. And, as I said before, it is almost impossible in most cases to prevent pyorrhea when malocclusion exists. Therefore, it seems of the greatest importance that we try to prevent decay in these first molars, and if we find them decayed, that we exert our best efforts to restore them to usefulness, and that we try, by the proper interference, to bring into normal position each tooth as it is erupted. You and I have been careless at times extracting diseased temporary molars and allowing the space to close up before the time for the eruption of the permanent bicuspid. A little effort on our part would have retained this space, and the bicuspid would not have been forced out of line. Some few years ago, one of our orthodontists showed me an easy way to retain this space by the use of a simple Magill band with wire between. Crowded conditions usually occur in the incisal and bicuspid regions.

"Expansion for space is the key-note to prevention of malocclusion," we are told by the orthodontist; also that if the space required for each erupting tooth be provided, there is small chance for malposition. Therefore, expanding the deciduous arches before the temporary teeth begin to loosen, would, in many cases, be the preventive treatment.

When the permanent teeth are all erupted in normal occlusion, with surfaces all thoroughly polished and free from roughened enamel and incipient caries, we have an ideal condition presented. But during the dental career of most of us, this ideal condition will not always present.

The "New Dentistry" will show results. "The Old Dentistry," with its repair work, will grow less and less. But we will always have

## ITEMS OF INTEREST

restorations to make. And if it be fillings, they should always be done in the most perfect manner possible, being especially careful to give them the proper contour and to restore contact points, thus preventing food from impinging on the gum tissue, causing irritation and absorption. Amalgam fillings should be as thoroughly polished as gold. All margins, especially those at the cervical border, must be thoroughly smoothed and polished, as those in the ragged state have often been the starting point of a pyorrhea pocket.

### **Gold Inlays and Crowns.**

Dentistry took a great leap forward when the gold inlay made its appearance. In the matter of restoring contact points, the gold inlay is the best, and many a tooth that formerly would have been crowned is now saved by an inlay. But the crown has its place, and perhaps always will have, and thousands of teeth are doing good service to-day because of the crowns which protect them. It is comparatively easy to run a disk between the teeth, cement on a ready-made shell crown, leaving an edge which projects from the side of the root, forming a shelf for the lodgment of decomposing food material and bacteria, causing irritation of the gum and pericementum followed by loosening of the teeth and recession of the soft tissues. But it is an entirely different matter to destroy the pulp in a molar, thoroughly fill the root, remove all enamel, and make a perfect-fitting crown with a joint between the root and crown so finely finished that it can scarcely be detected by passing over it the point of a sharp probe. A crown of this sort produces no irritation and harbors no uncleanness.

It would seem, then, that the prevention of pyorrhea means that, first of all, we must be good teachers. We must school ourselves in the art of conveying to others how to care for the mouths of humanity, beginning with the babe in arms. The physician—the parent—the nurse—the school teacher—and the child, must each in turn be taught this lesson of “oral hygiene,” not alone at the chair, but elsewhere.

Secondly; we must place greater stress on the care of deciduous teeth in our daily practice, giving this part of our work our very best skill and attention. If any part of our practice must be neglected, let it be the older patients.

Thirdly; we should adopt a more careful and systematic plan in watching and treating the permanent teeth as they erupt, which includes thoroughly polishing the enamel.

Fourthly; we should exercise better judgment, and our very best skill in the matter of making restorations; trying to leave each surface and margin so perfect that it can be readily cleansed.

And lastly, we must be enthusiastic about our work if we wish the co-operation of the patient.

By following this simple plan, we will be doing our plain duty, and the day may come when there will be no more pyorrhea.

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### The "Relief."

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By L. P. HASKELL, Chicago, Ill.

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In the July issue occurs an error, when in my description of some cases I am made to say in the last paragraph "Bridgework" for "Continuous Gum Work."

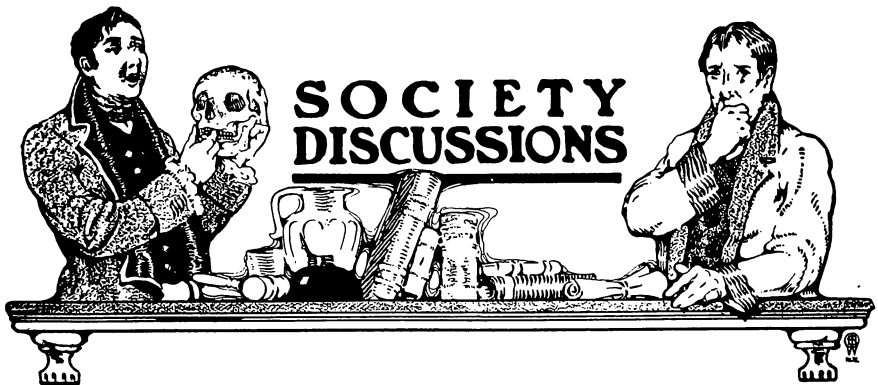
I received a letter from a dentist who had read it, asking for more information in regard to the "Relief." As others may wish to know my method I will state it.

Every dentist is aware that the centre of the palate is hard, but does not seem to consider that no change takes place there, while sooner or later the alveolar ridge gives way, and the plate, instead of resting on the ridge, is resting on the palate and rocking. If there is the usual air chamber the anterior and posterior margins are pressing hard. To meet this trouble, take the usual base plate wax and cover the hard centre from nearly to the top of the ridge, about half an inch in width, as far back of the hard surface as possible. The plate, of course, must extend beyond for close contact. The margins of the relief must be made thin, flush with the model. This, of course, is for the metal plate.

For the rubber plate, either scrape the impression, or finish out of the plate. I do the latter.

I do no scraping of the model anywhere, as the plate needs only to come in close contact with the soft parts.





## Second District Dental Society. February Meeting.

A regular meeting of the Second District Dental Society of the State of New York was held on Monday evening, February 12, 1912, at the Kings County Medical Library, No. 1313 Bedford Avenue, Brooklyn, N. Y.

The President, Dr. Babcock, occupied the chair and called the meeting to order.

The Secretary read the minutes of the last meeting, which were approved.

The paper of the evening was read by Dr. J. D. Thomas, of Philadelphia, and was entitled "The Effects of Prolong Treatment and Persistent Retention of Diseased Teeth."

### Discussion of Dr. Thomas's Paper.\*

I am extremely obliged to the Second District  
**Dr. M. I. Schamberg.** Society for having invited me to discuss this paper, presented by a man whom I have known for so many years, and whose opinion, from the standpoint of the extracting specialist, must carry weight. I have known Dr. Thomas almost as long as I have known any one in the profession, and his reputation in the city from which I came is such that he is considered to be without a peer in his line of work. Therefore, if I happen to differ with him, it will be entirely due to the fact that I am working in a specialty which permits of my seeing many cases referred to by him, which can be cured by surgical intervention, and without the sacrifice of teeth.

I fully agree with him that we should not put in jeopardy the maxillary sinus or other structures adjacent to the teeth, for the simple pur-

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\*The paper by Dr. Thomas was published in our August issue.—Ed.

## SOCIETY DISCUSSIONS

pose of deferring the inevitable removal of a diseased tooth. We should come to a prompt and decisive conclusion as to whether the extraction is necessary or not. Many teeth are retained too long. If the maxillary sinus becomes involved as a result of an abscess upon a tooth, it is folly to endeavor to drain the antrum through the pulp canal of the diseased tooth. The sacrifice of a tooth is a small matter as compared to the possible extension of infection through the maxillary sinus to the accessory sinuses of the face and head.



Fig. 1.

I take great exception to the fact that Dr. Thomas in his paper has failed to make reference to a recent advance in dentistry, which makes possible in these cases a prompt decision as to the course to pursue. This important agent is the X-ray, and it has become almost universally adopted as a ready means of arriving at a prompt decision. Though this newer method of diagnosis is not infallible, is not without its mistakes and possible faulty interpretations, at the same time these errors are frequently due to faulty technique, and no paper, such as we have listened to this evening, should omit reference to this valuable agent in determining whether to conserve a tooth or doom it to the forceps. The sacrifice of a tooth too frequently means its substitution by bridgework, which involves the adjacent teeth and creates in them factors for subsequent pathologic disturbances.

The following radiographs thrown upon the screen will tend to illustrate the invaluable service of the X-ray in determining the prognosis of affections about the face and head, with and without the sacrifice of teeth.

Here a pyorrheal pocket about a bicuspid tooth had created in this patient a ringing in the ears for several years. The antrum became secondarily involved, and there was no doubt but that this tooth should be sacrificed to clear up the involvement of the maxillary sinus, for it had almost made this patient melancholy.

## ITEMS OF INTEREST

**Fig. 2.** This radiograph shows an area from which pus was discharging between the lower first and second molar teeth. The radiograph indicates a slight area of tissue involvement as the result of this pyorrheal process. The patient will always need to be more careful in the cleansing of this pocket, but would not be justified in having the tooth removed, because of the small amount of deposit on the posterior surface of the first molar.



Fig. 2.



Fig. 3.

**Fig. 3.** Here is a picture which shows distinctly the importance of the radiograph as a diagnostic aid in determining the nature of the affected region. The first molar is irretrievably lost. No surgical work or root canal work would make this tooth valuable. Following the removal of the tooth the abscessed region was curetted and dressed until perfectly healed. The bicuspid tooth was cured by an operation upon the abscessed region and subsequent root canal work by the dentist. This tooth is now used as an abutment for a bridge, and the part is thoroughly healed.

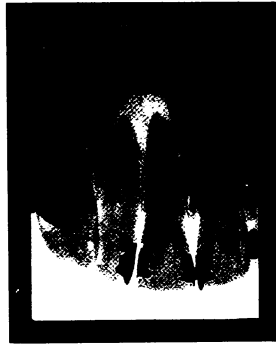
**Fig. 4.** Here we find two rather unhealthy looking specimens of teeth. There is a large area of disease in the bone above them, the cure of which could not be accomplished by the simple removal of these teeth. Some surgical procedure is required to eradicate the trouble in the bone, and why not do it without the sacrifice of the teeth? Because the average dentist does not meet with success in these operations, is no proof that they can not be done successfully. I believe that as high a percentage of cures can be acquired from the treatment of abscesses by root amputation as from the treatment of caries of the teeth by filling. Careful attention must be paid to each detail in the operation. More than 95 per cent. of cases are thus cured in my practice, and, when failures occur, they are due to faulty technique, whether at my hands or someone's else.

**Fig. 5.**

Here is another instance of the involvement of two teeth, and a very frequent cause of mistakes leading to extraction. This patient had been having the central tooth worked upon because there was a suppurative area above it. If the dentist in charge of the case had come to a decision without the radiograph he might have advised the extraction of that tooth; whereas the abscess was the result of the infection from a putrescent pulp in the



**Fig. 4.**



**Fig. 5.**



**Fig. 6.**

lateral incisor. As soon as he learned the true cause of the continuance of the trouble, he was able to open the lateral incisor and cure the case without surgical treatment.

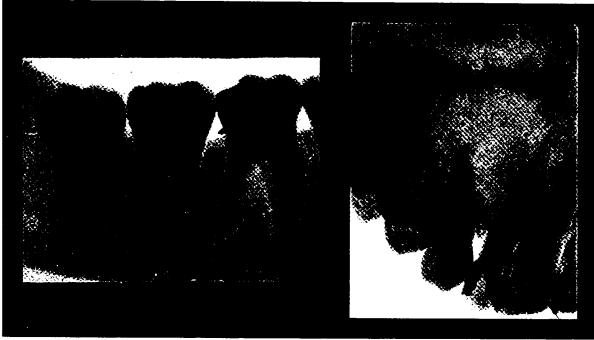
**Fig. 6.**

I fully agree with Dr. Thomas that many of the cases that are so-called cures run along in a more or less chronic state of suppuration. I do believe, however, that most of these have not been radiographed or studied thoroughly, otherwise those in attendance would have been aware of the fact that there was still some disturbance about the ends of the teeth. Such conditions can be as completely cured as suppurative lesions in other parts of the body. There are so many hidden conditions that arise in dental practice that if we were to base our opinion absolutely on the clinical examination of the mouth, without recourse to radiography, we might overlook such an area as is shown in this picture, and attribute failures to the fact that abscessed teeth can not be cured even through thorough and perfect root canal work. The condition about this tooth was located by passing a flexible probe forward through a fistula in the roof of the mouth three-quarters of an inch behind the anterior teeth.

## ITEMS OF INTEREST

**Fig. 7.**

This is an example of a tooth irretrievably lost, and it should be extracted. The pus organisms have invaded the tooth substance to such an extent that there is scarcely any portion of the periphery of the root which appears to be in a healthy state. I am glad Dr. Thomas has come forth with his emphatic paper pleading for more prompt decisions as to when teeth should be extracted. I believe, however, many conditions referred to by him are amenable to treatment.



**Fig. 7.**



**Fig. 8.**



**Fig. 9.**

**Figs. 8 and 9.**

In these you see the tremendous destruction of bone above a central and lateral incisor, extending above the cuspid tooth. In spite of very great tissue loss in such a case as this, if root amputation is properly performed, and the affected region thoroughly dealt with in a surgical manner, the teeth can be retained for many years. No. 9 shows the ends of the central and lateral teeth amputated. It is only when work of this character is not thoroughly done, and the diseased parts not competently eradicated, that the condition recurs.

Another point to be taken into consideration is the fact that not all patients can afford the expense of radiographs or of surgical treatment. It is our duty to teach thorough dentistry, and it must then be left to the patient to decide whether he wishes to have such work done. The main consideration is the welfare of the patient, and he should not be held in ignorance of what can be done for him and the dangers that accrue from retaining teeth about which there are suppurative areas. Such conditions must be cleared up by one means or another. I do not believe Dr. Thomas has laid sufficient stress upon the systemic effects of absorption from pus foci about the mouth.

## SOCIETY DISCUSSIONS

**Fig. 10.** Here several roots have been cut off for the cure of a diseased area above it. The simple removal of such teeth would not clear up the trouble without a thorough curettement of the affected region. It is my belief that where teeth of this character are removed without curettement, areas remain behind which may later be the cause of the peculiar facial pains of



Fig. 10.



Fig. 11.

which some patients complain. For this reason, I strongly advocate a very thorough curettement of abscessed tooth sockets at the time of the removal of the teeth. If an inflammatory membrane remains behind, it becomes periodically congested and causes those peculiar vague and nagging pains, which are hard to locate, and which send some patients to insane asylums, according to the observations of Upson. Some of these cases may be due to failure to extract teeth in time, though I believe more cases of facial neuralgia are due to the failure to clear up the trouble at the time of extraction. In these cases, it is far better to keep the tooth to point in index finger fashion to the trouble than to extract it and have the disease remain, which later is almost impossible to locate.

**Fig. 11.** This is a radiograph of a case where the patient complained of pain in the side of the face, whereupon the dentist advocated the removal of the first molar, which he believed to be the cause. No relief was afforded by the sacrifice of that tooth, so the patient was sent to me to locate the trouble, which is clearly shown to be an abscess beneath the second molar. Such a case as this illustrates the importance of radiography in arriving at an accurate diagnosis.

## ITEMS OF INTEREST

**Fig. 12.** This illustrates the type of abscess about the end of the tooth that is kept active by the projection through the end of the tooth of a piece of filling material. Such a condition as this frequently results from the pathologic resorption of the end of the tooth, causing the canal to be excessively wide.



Fig. 12.

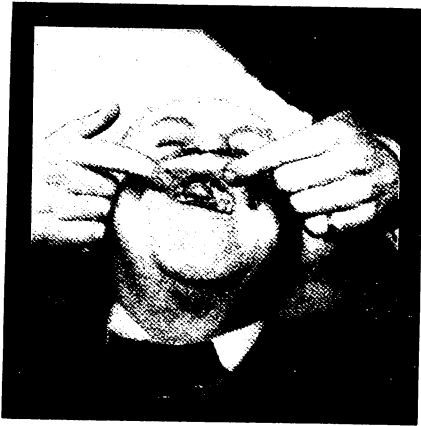


Fig. 13.

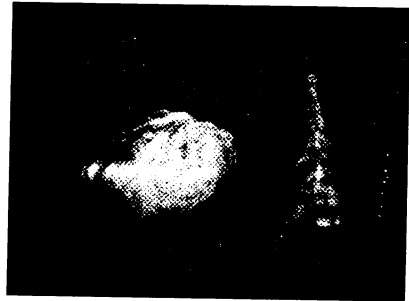


Fig. 14.

**Figs. 13 and 14.** Disputes frequently arise between dentists and surgeons as to the need for the removal of teeth during operations upon epuli and other conditions about the jaws. Here experience and a thorough acquaintance with mouth conditions plays an important part. Figure 13 is a photograph of a fibroid epulis of good size, causing a prominence of the upper lip and creating absorption of the alveolar process from the anterior surface of

the central and lateral incisor roots. Figure 14 shows the growth somewhat contracted as a result of placement in 80 per cent. alcohol solution, and also the tissue upon that portion of the pericementum from which the growth sprung. It has been my experience that most epuli spring from the periosteum or from the pericemental membrane, and that complete and thorough removal most frequently means sacrifice of the involved teeth.

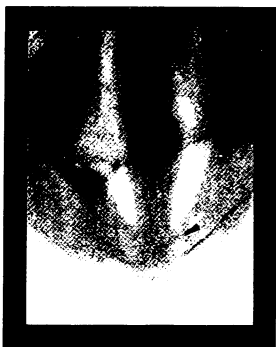


Fig. 15.

**Fig. 15.**

This is a radiograph of a case that it would have been necessary for you to see to appreciate its full significance. The patient was about 80 years of age. She had periodic swelling of the upper lip, columella and nose, and it seems both her eyes were closed by extension of the edema. She was under observation for many years in her home town without the cause of the disturbance having been determined. There were periods of complete subsidence of symptoms. Owing to the fact that she had an edentulous mouth, they did not suspect teeth as a possible cause, but they did believe that the artificial denture in the upper jaw might be pressing too hard against the soft tissues. By means of the radiograph, I found a large area of disease between the roof of the mouth and floor of the nose, with a foreign substance in it, as shown in the picture by the dark speck. This substance had, evidently, been projected into the tissue through the tooth root at the time of an existence of an abscess in that region. When the tooth was extracted there was, evidently, no attempt made to clear the bone of the infection that existed. The parts healed over this region and left an area which extended and later gave the trouble aforementioned. The radiograph only shows one dimension of this cavity, the depth of which is best judged by the fact that when I operated upon the

## ITEMS OF INTEREST

patient I cleaned out a cavity which accommodated about three feet of iodoform gauze of two and one-half inches width rolled into a rope. The patient was under ether for half an hour, and remained in the hospital for about a week, after which the part was packed every second or third day until the region was completely filled in with new granulation tissue. The patient was afforded complete relief by the operation and improved considerably in general health. There is no reason why she should have



Fig. 16.



Fig. 17.

been subjected to all that trouble if, at the time of the removal of the tooth, some thought had been given to the underlying bone.

This patient was operated on in Boston by a general surgeon for the cure of an abscess upon the lower incisor tooth. At the time of operation, no radiograph was taken nor any consideration given to detail dental pathology. The surgeon amputated the end of the root and cleaned out a large area beneath it, but he caused more trouble than existed originally. The pulps of adjoining teeth were injured, and from these there came infection which caused recurrent swelling of the chin and lower lip. The picture likewise disclosed the fact that the incisor tooth has a pulp canal filling which is so slender that it does not fill the canal and, as a result of this, pus is drawn into the tooth by capillary attraction. The importance of the radiograph in this case must be apparent to all.

Here is an abscess of enormous size involving the bone above the central, lateral and cuspid teeth of the upper jaw. I wish to ask you whether you think we would be justified in taking out these perfectly good teeth for the cure of this abscess, or whether it would be better dentistry to go in surgically and clean out the affected region without disturbing the teeth,

save to fill the pulp canals which must have been involved, owing to the close proximity of the disease above them? If the work is done properly, there is no reason why these teeth should not go with that patient to his grave.



Fig. 18.



Fig. 19.

Fig. 20.

**Fig. 18.** This shows an upper central incisor tooth with an abscess upon it produced by a perforation through the side of the root. The radiograph in this instance indicates the difficulties that would be entailed in an effort to save this tooth. There is also a piece of root shown in the picture which, unquestionably, should be removed.

**Figs. 19 and 20.** Figure 19 shows a large abscess involving the roots of the upper lateral and cuspid teeth. In an attempt to thoroughly fill the canal a gutta-percha



## ITEMS OF INTEREST

cone was completely forced through the end, and is seen within the abscessed region. The portions of the teeth projecting into the abscess had been bathed in pus for so long a time that I decided to remove the ends at the same time that I curetted the affected region. It must, furthermore, be remembered that the ends of such teeth are standing in space and do not lend support to the teeth. Figure 20 shows the same case after an operation with the ends completely amputated. Such teeth are, as a rule, firmer after operation than before, in spite of the fact that they are very much shortened. This is due to the fact that the irritation causing the thickening of the periodontal membrane is removed and the tissues are enabled to become firm by returning to the normal. I could show hundreds of cases where root amputation has been followed by teeth becoming more firm and rendering service for many years. In some instances, abscesses were of as long as fifteen years' standing before this method of cure was applied.

I did not think that words could be sufficiently eloquent to do justice to some of the points brought out by Dr. Thomas' paper, so I took the liberty of using these slides to illustrate the subject. I feel that our main point of difference is that Dr. Thomas did not touch upon that phase of the subject which proves the possibility of curing some of the conditions referred to by him with surgical treatment rather than the sacrifice of teeth.

This subject, as presented by Dr. Thomas, I consider one of the most timely that has been brought before the profession during the past few months. Recently the dental journals have had many editorial and other contributions in reference to a so-called quotation last summer in *Current Literature*, from an address delivered by Dr. William Hunter at the opening of McGill University in 1910. This article in *Current Literature* was in no sense a true quotation of Dr. Hunter's admirable address, and as Dr. Thomas has emphasized the well directed criticism of Dr. Hunter in that address, I feel it is possibly an opportune moment here to state that it is unfortunate that so many dental journals have taken the position which they have towards Dr. Hunter. There never was written a more timely, more scientific nor a more praiseworthy article in reference to dentistry. Professor Hunter divided dentistry into two classes, septic and aseptic, and he started out by paying the greatest respect to scientific dentistry, acknowledging its value to humanity. He then proceeded to give this opinion of what he calls, and I believe very rightly spoke of as "septic dentistry" instead of aseptic dentistry.

No criticism can be made in reference to the general principles so

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well brought out by the essayist to-night. It is impossible scientifically to controvert the fact that if there is a diseased condition in the alveolus it should be either radically cured, or the tooth involved should be removed with the surrounding pathological tissues. That statement cannot be criticized, and I thoroughly agree with the sentiment of the essayist when he speaks of the fact that the removal of a large number of such teeth has been the only remedy in innumerable cases in his practice. This is a lamentable record, but it simply emphasizes the fact that the percentage of scientific dentistry—of good dentistry—is small.

The point in the paper where I must differ with the essayist is where he seems to advocate as a line of practice that the majority of diseased teeth should be promptly extracted. It should be our mission—it should be our duty—to hold up to the profession the very highest ideals. If teeth diseased in the manner outlined both by the essayist and by Dr. Schamberg can be properly diagnosed, and if the diseased conditions can be eradicated and absolutely cured, and if it is the wish of the patient to save these useful organs, and he is willing to give the proper compensation for the time and labor involved in accomplishing this, then it becomes our duty to treat, to cure, and to save such teeth.

The essayist stated that in cases of abscesses that pointed on the face of a patient, where the cause was directly due to a pathologic condition involving a tooth—he never had seen such conditions cured and the teeth saved. I must take serious exception to this statement because I have too many cases of that kind on my records, where external fistulas were absolutely closed, the teeth restored to a healthy condition, and the parts thoroughly cured, and I believe I am simply stating what the records of a great many of the men in this audience can substantiate.

The essayist spoke of the danger of prolonged treatment of teeth—the detriment to the system of the individual. This I cannot emphasize too strongly. I most heartily agree with the essayist on that point. There is no excuse for prolonged treatment of abscessed teeth, or diseased tissues around the peridental regions, if such teeth are to be cured. The prolonged treatment of these conditions is one of the fallacies that has been brought down in the history of the profession. There are just two or three simple things that must be done if such a tooth is to be saved: the organic matter in the separate root canals must be entirely removed. That is the first principle. The second principle is that all diseased territory, in what is known as the apical zone, must also be eradicated; the root canals must then be homogeneously and thoroughly sealed, and finally every portion of this work must be done under the strictest aseptic surroundings, and without any possibility of infection during the operation.

This is a scientific method of permanently and radically curing such

## ITEMS OF INTEREST

conditions, and there are very few instances wherein this cannot be accomplished.

I have been asked to bring a few lantern slides to illustrate these questions. I realize it is very late, but I will try to make my points as rapidly and as clearly as possible.



Fig. 1.

### Description of Slides.

**Fig. 1.** Figure 1 shows a beautiful section of the mandible. This is a reproduction of one of the lamented Professor Miller's sections, which has been kindly furnished me by the Dental Department of the University of Michigan.

I wish to call your attention to the anatomy of the teeth in the sockets, and to ask you to note the ease with which infectious matter might be taken up by the spongy portion of bone in the alveolar region, in contradistinction to the hard part of the bone of the mandible itself. Nothing can emphasize the danger indicated by the essayist and by Professor Hunter in his admirable article on oral sepsis—the danger to life itself by the overlooking of these abscessed areas, so much and so well as by looking at a specimen of this kind.

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**Fig. 2.**

This is a third lower molar, which I will briefly refer to as a tooth that I would not consider worth an attempt to save, a tooth such as the essayist dooms to the forceps. I want to emphasize what Dr. Schamberg said. This whole question is one of differential diagnosis, of being able to arrive at



Fig. 2.

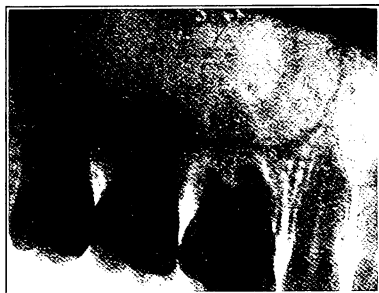


Fig. 3.

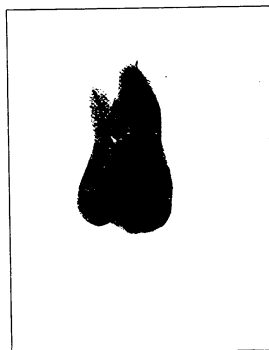


Fig. 4.

a conclusion that is borne out by the facts. I also want to agree with what Dr. Schamberg has said as to the value of the radiograph in this work. The time is not far off when a radiographic outfit in a dental office will be just as important and necessary as the dental engine is at the present time.

**Figs. 3 and 4.**

Here is another case similar to the last one, where it would be perfectly useless to attempt to save the tooth, after the style of dentistry it had endured. Several broaches extended through the roots of the tooth. Fig. 4 is the extracted tooth after Dr. Schamberg returned it to me.

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Fig. 5.



Fig. 6.

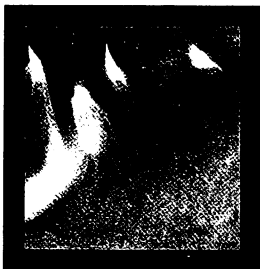


Fig. 7.



Fig. 8.



Fig. 9.



Fig. 10.

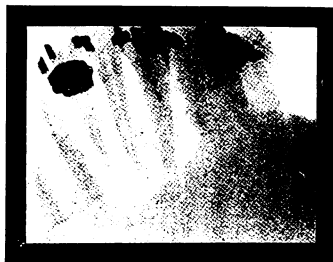


Fig. 11.



## SOCIETY DISCUSSIONS



**Fig. 5.** Here is another case I sent to Dr. Schamberg—a lower molar. That patient came into my office wondering what could be done. The radiograph shows a false opening at the bifurcation and gutta-percha packed into the alveolus, which the operator evidently mistook for a root canal. I sent the man to Dr. Schamberg's office and he extracted the tooth.

**Fig. 6.** Here is another lower molar. This is the brother of a patient of mine. He traveled from Pittsburg to learn if I could save this lower molar for him. He had a perfect set of teeth, but his dentist had broken off the broaches seen in both the distal and mesial roots. The dentist was very frank about it, told him the truth, and advised the removal of the tooth. I advised him for the sake of his health to follow his dentist's advice. If only one of the roots had been involved I would have decided differently, and I will show you a couple of molars of that kind.

**Figs. 7 and 8.** Figure 7 is a lower molar. This case was similar to the last; the mesial root was badly abscessed and a broach was broken off in it, and yet the patient desired me to save that tooth. Figure 8 shows the mesial root amputated and replaced by a porcelain root. It has been in splendid condition for over four years. It is a much more difficult operation than the replacement of a necrosed root, because it involved the removal of every part of the alveolus in which the tooth is encased.

**Fig. 9.** Here is another porcelain root on a lower molar. That is one of the oldest porcelain roots that I have placed in position. It has done service over thirteen years. It has never given any trouble. There is nothing unhealthy about it. It is resting entirely on the gum tissue. The root filling in the distal root is seen. I show this to illustrate about the most difficult type of diseased condition that can be radically cured and left in a healthy condition.

**Fig. 10.** This is a good example of the class of dentistry condemned by Dr. Hunter—septic dentistry. This is a bridge, and the abscess is the result of incomplete removal of the pulp and imperfect root filling.

**Fig. 11.** The important thing, as Dr. Schamberg said, is a correct diagnosis. Fig. 11 is from a case that came to me some years ago. The man said he had been treated for pyorrhea for twenty-five years. He had been told that all his front teeth were afflicted with pyorrhea. I had my doubts as to the pyorrhea. The radiograph shows that the patient was suffering from alveolar abscesses instead of pyorrhea, and inquiry disclosed the fact that

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Fig. 12.



Fig. 13.



Fig. 14.



Fig. 15.



Fig. 16.



Fig. 17.

## SOCIETY DISCUSSIONS

twenty-five years previously he had fallen from a tree, injuring his cuspid tooth. The dentist, in attempting to clean out the canal of the cuspid, drilled through the side, and never got any further than that.

The next case is almost a replica of this last one.

**Fig. 12.** A young girl who came to me in great distress was the patient. The diagnosis was similar to the last, and treatment for the alveolar abscesses cured the so-called pyorrheal conditions.

I might say in this connection that I believe 80 per cent. of cases that have been referred to me as pyorrhea, upon radiographic examination have turned out to be alveolar abscesses.

**Fig. 13.** Here is a bridge in a most distressing state. The two bicuspid are bridged together; both roots are abscessed, while one canal has never even been opened. This would come within the essayist's list of teeth not to be saved, yet the patient wanted the teeth saved, and I will show you the method pursued.

**Figs. 14 and 15.** Figure 14 shows the condition after the bridge was severed apart, and root canal of second bicuspid opened up and treated. A wire is in the canal of the second bicuspid, indicating that the canal has been explored to the end; the same is true of the first bicuspid. All of the apical zone was cured by electrolytic action. Figure 15 shows end of second bicuspid root sealed—canal left open for pin. First bicuspid shows two canals filled to the end. Afterwards the proper constructive dental work was done, and these two teeth are in very good condition.

**Figs. 16 and 17.** Here are beautiful specimens done by Dr. Blum representing the type of perfection that can be reached in root fillings. Figure 16 shows the wires placed in the root canals, so that a radiograph might disclose whether the ends of the canals had been reached. Figure 17 shows same canals after root filling.

Now we come to another condition, and that is of pus in pyorrheal cases left to constantly discharge. The mere tying together of such teeth will not effect a cure. The infection instead of decreasing, constantly increases, and is undoubtedly most deleterious to the general health. It were far better that such teeth should be extracted, unless the pulps are carefully removed, the canals cleaned and the teeth properly splinted.

**Fig. 18.** At the last meeting of the first District Dental Society, Dr. Roach showed splints of the nature of Carmichael attachments. It has always struck me as unreasonable—this demolishing of the entire lingual surfaces of the

## ITEMS OF INTEREST

teeth, in order to put a splint in position—to say nothing of the impossibility of putting the so-called Carmichael splint in place, and obtaining hygienic conditions; whereas a comparatively swift operation can be done. Figure 18 shows these teeth splinted together—iridio-platinum posts enter the roots, united to a continuous cast inlay, and we have nothing more difficult to place than an ordinary inlay, when we obtain a splint that will defy criticism.



Fig. 18.



Fig. 19.



Fig. 20.

**Fig. 19.** I now show you a picture of two central incisors, so loose that they would wobble in and out. Figure 19 shows one incisor after the root was filled.

**Fig. 20.** Figure 20 is a radiograph of both canals with the splint in position. See how healthy the tissue is around them. The splint was also constructed by Dr.

Blum, and is simply an illustration of what good work is when it is carried out on scientific principles.

I fear I have tried you very much by this lengthy talk, but I do feel that it would be wrong for the idea to go out that teeth of the kind illustrated by the essayist could never be scientifically and perfectly saved, and

## SOCIETY DISCUSSIONS

I mean by that, left in a condition where there is no menace to the health of the patient. There are many cases past redemption, as Dr. Thomas tells us, but it would be as bad to extract all diseased teeth as it is to try to save them all.

**Dr. Thomas.** The hour is so late I will not take time to say anything further. I do want, though, to express my appreciation and thanks to Drs. Schamberg and Rhein for this beautiful exhibition of slides, and their instructive discourses upon the subject.

It may be a question, whether the operative treatment for these cases, which they recommended, will become the accepted system of practice in preference to extraction, but they have emphasized the fact that these conditions are altogether too prevalent. Seventy-five per cent. of the cases recommended for extraction are for abscesses, acute or chronic, and a very large proportion of them are accompanied by bone infection, disintegration, caries and necrosis, and from what has been shown here to-night this condition is equally prevalent in cases met with in their practices. My purpose in preparing the paper was to call the attention of the profession to this—which is, to my mind, a very serious defect in the system of dental practice. A “running sore” in the mouth (to use a layman’s expression) is just as detrimental to its surrounding area, and as deleterious to the health of the individual as a like condition on any other part of the body, and, as I have said in the paper, is contrary to the principles of medical and surgical practice, is contrary to the practice of oral hygiene, and is a condition which should not be permitted to exist.

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### March Meeting.

A regular meeting of the Second District Dental Society of the State of New York was held in the Kings County Medical Library Building, No. 1313 Bedford Avenue, Brooklyn, N. Y., on Monday evening, March 11, 1912.

The President, Dr. E. H. Babcock, occupied the chair and called the meeting to order.

The minutes of the previous meeting were read by the Secretary and duly approved.

Dr. Barker read a paper entitled “Some Systemic Causes of Pyorrhea Alveolaris.”

**Dr. Barker.** About a year ago I read a short paper on the subject of vitality as a factor in dental caries. The editor of the magazine to which it was sent kept it on hand for nearly a year before he published it, and it was published some time in the middle of the winter.

## ITEMS OF INTEREST

So far as I know, that was the first reference in our literature to vitality, or impaired vitality, as a factor in dental caries. Since this little paper was written there has appeared in a dental magazine, a paper written by a gentleman in Kentucky, in which he touches upon the fact of impaired vitality being a possible cause of pyorrhea.

The point I want to make now is that that is the beginning, the entering wedge of our recognition of vitality as a factor in health or disease. Up to this time it has not been a recognized factor. It is not taught in the text books and colleges, and there is no scientific man, so far as I know, who has made any account of it.

(Dr. Barker then read his paper, which appears in this issue.)

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### Discussion on Dr. Barker's Paper.

**Dr. Fanning.** Mr. President, I have had the same experience as Dr. Barker, and many a time I have treated a tooth for pyorrhea. At the last meeting we had with us a prominent gentleman from Philadelphia—Dr. Thomas. I am glad to say that here we ought to stand for the truth. It is all wrong to declare that every bad pyorrhea tooth ought to be saved, and as Dr. Thomas said about roots and teeth, it is all very well to have pretty theories, but we are dealing with something very malignant, and that is pus. There is one thing in this worth all else, and that is truth. When we shut our eyes to the truth we do not change it a bit. After all, often the forceps are the best cure.

John Hunter said the average man or woman would be better off without teeth at the age of forty. He meant those whose teeth are so filthy that they injure the whole body.

Not long ago one of my dear friends recovered from typhoid fever. He was unconscious most of the time for thirty-one days. A dear little nurse (by the way, she was a homely old maid, but a good little woman) brushed his teeth twice every day, and undoubtedly that woman saved his life. She removed all the decomposing masses from his mouth.

On the other hand, how many times have we saved teeth that were loose, only to find we cannot get the patient to help. People like that, even though they have nurses standing over them, would not be saved. This law of Nature is simply punishing people who will not do right.

I have a very good stomach simply because I take care of my mouth. As Dr. Barker says, disease is all due to a lack of resistance.

**Dr. Leroy.** I cannot resist the temptation to speak on the subject, because I think both gentlemen are talking of pyorrhea as a disease itself. Pyorrhea alveolaris,

## SOCIETY DISCUSSIONS

in my estimation, is a local manifestation of a general disturbance. Dr. Barker has said that he divides it into two classes, local and systemic, and that in the systemic the cause is constitutional and senility. Local causes might almost entirely be eliminated if the general or systemic condition of the patient could be kept at par so as to prevent local disturbance.

Dr. Barker said Dr. Rhein includes Bright's disease as a cause of pyorrhea. I believe that pyorrhea is the cause of Bright's disease, or rather that the condition that induces pyorrhea also induces Bright's disease. In other words, it is a lowered vital resistance, and whether it is Bright's disease or whether it is auto-intoxication, or whether it is pyorrhea alveolaris, the final factor is lowered resistance.

You know that if we have normal saliva, which means a normal function of the organization, we cannot have infection in the oral cavity. If we have a normally acting saliva it immunizes the subject from any bacteria that enter the body before they have an opportunity to perform their function. The normally functioning saliva pre-supposes a normally functioning gastric or gastro-intestinal fluid, so that it is an endless chain, and if you want to prevent the so-called gastro-intestinal disturbance you must keep the mouth free from infectious matter. In fact, there are so many conditions that enter into the degeneration of tissue that we cannot control that it is almost a foregone conclusion that most adults or most individuals, when they have reached the period of adolescence, have established some form of disease.

Local treatment, of course, will help those cases of pyorrhea where there are any deposits on the teeth. It will help the patient greatly, but no case of true pyorrhea has ever been cured by instrumentation alone. It is what is brought about by the instrumentation, producing healthy granulations and reducing the local infection. The so-called periodical treatment demonstrates the truth of the statement that we have not cured pyorrhea, but we have reduced the local manifestation of it, and some cases respond for a greater length of time than others, but it requires monthly or bi-monthly care. That is sufficient evidence that it is of constitutional origin. If you allow that case to go for longer than a month or two, the same symptoms reappear. If that is the case, your cause must lie back of the local manifestation.

I want to say a word from the prophylactic standpoint. We have yet to learn a great deal about that side of dentistry, prophylaxis so-called. Personally I do not take sides with either party, whether they talk about constitutional origin or local origin. I do not believe that signifies a great deal. There is as good authority on one side as on the other. On the local side are Drs. Smith and Hutchinson, and on the constitutional are

## ITEMS OF INTEREST

men like M. L. Rhein and H. Smith, of England. It has yet to be proven that before the inception of constitutional diseases like tuberculosis or typhoid, or others, pyorrhea alveolaris would occur; whether the disease would take hold. That has yet to be shown. People come to us with tuberculosis and at the same time suffering from pyorrhea. We naturally conclude that the pyorrhea is due to the tuberculosis.

If prophylaxis had been properly carried out before the inception of the constitutional disease we might say more definitely whether pyorrhea would have taken hold.

Dr. Barker, in his paper, said that local treatment is all the dentist can undertake—he cannot treat constitutionally. I disagree with that to some extent, because there are times where we have considerable pus absorption, pus passing into the stomach and through the intestines, when we can give patients small doses of iodides. We can also give them tonics, and that would be to some extent a constitutional treatment. Of course we cannot treat the disease itself.

Another point that was brought up was that patients are too old to be treated for pyorrhea at a certain time. I have a patient now about eighty-four years of age. He came to me with a bad case of pyorrhea, and after half a dozen local treatments it was cured entirely. It was typical pyorrhea; there was no question about it.

I agree also with Dr. LeRoy that there are many cases where the teeth become loosened at certain ages, even early in life, which might be due to premature senility. There is absolutely no pus, and no calculus, but nevertheless the teeth become loose and the peripheral circulation is impeded and the teeth are lost.

I do not know that I can add anything to what  
**Dr. Barker.** has already been said. The speakers have pretty generally coincided with my views, although approaching the subject sometimes from a different angle; but on the whole I do not know that I can criticize anything that has been said.

Dr. Nodine then read a paper entitled "Rheumatic Fever and the Contribution of Septic Mouths to its Causes and Cure."

### Discussion on Dr. Nodine's Paper.

**Dr. Leroy.** Mr. President, I must congratulate the author on writing such a paper. I think he is on the right track.

He goes into the subject a little more deeply than I would, but he is perfectly correct in his suppositions. Until I felt convinced that pyorrhea alveolaris and other constitutional disturbances were brought about by lowered vital resistance, which was either induced by gastro-intestinal dis-

## SOCIETY DISCUSSIONS

turbances or through absorption by the tonsils, I was not prepared to take the stand as to the constitutional origin of so-called pyorrhea alveolaris.

Rheumatism is a disease about which there are many views as to its cause and treatment, and if any member of our profession can put his finger definitely on the cause and treatment, he will have added much not only to his own glory, but to the glory of the dental profession.

If you will consult any number of practitioners, very few seem to know much about it; but if you ask if they have treated it, their treatments are legion. All boiled down, my humble view is this, that it is a question of proper balance, and when we have abnormal conditions it is due to a lack of balance.

I have read a few articles of the highest scientific merit by world-acknowledged authorities on these things, not only one, but a hundred, or a hundred and fifty. What I say in this paper you can accept as true, not because I voice it, but because I have counted the votes.

A vote of thanks was tendered to the essayists, and the gentlemen who took part in the discussions.

There being no further business, the meeting adjourned.

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### S. A. M. Convention, Atlantic City, N. J.

June Twentieth, 1912.

#### Discussion on Dr. H. E. Friesell's Paper.

Mr. Chairman, Ladies and Gentlemen: I have not much to offer in discussion; in fact, much discussion is impossible, if we are to adhere closely to the matter presented in the paper. As Swift has said, "A man must serve apprenticeship to everything except criticism."

I am personally acquainted with Dr. Friesell, and as he is now invading a new field, I hope that we all will become better acquainted with him. The majority of dentists do not pay sufficient attention to the soft tissue, and particularly to the contact points. Many dentists think that in "Extension for Prevention" the gingival cavity margin must be cut below the gingival line, which is not at all necessary. Decay, according to the essayist, does not spread on the enamel beneath the gum margins. He has shown how important it is to protect the gingivæ, and has said that when pyorrhea is once established it cannot be cured. Dr. Flagg's dogma on this question was "Probable amelioration with possible recur-

## ITEMS OF INTEREST

rence." The essayist says that erosion does not spread below the gum margin. Black has said that if a tooth has once departed from normal relation with the gingiva, as is the case in an implanted tooth, for instance, the gum may secrete a ferment which is capable of eating away the gum margin. Perhaps the reason we do not practice the general use of "extension for prevention" in the East is that the patients here in the East cannot endure the extensive preparation necessary as well as the patient of the West. As I have practiced in both sections I really believe this to be true and due to the nervous condition of many of our patients here. I have here two Richmond crowns to exhibit, one of which was in service for eight years; the other I do not know the history of. One is adapted properly and the other is not. I extracted both of these teeth, and it may be interesting to note that the poorly adapted one does fit fairly close on the labial surface, where the gum at this point was normal, but at the back, where it stands away from the root, the gum had badly receded. I have taken up so much of your time that I will now give way to others, in the hope that I have said enough to start the discussion.

I have no criticisms to offer, as I think this has  
**Dr. E. A. Bryant.** been an admirable paper. I have no doubt that the majority of tooth troubles arise from the gingiva, and this should be remedied. But when are we going to start the remedy? And where will we get the patients to practice the remedy on? We find in some cases, where there is a clean mouth, very rapid decay proceeding, and in other cases where there is a mouth in filthy condition very little decay, even where the approximal spaces are constantly filled with food debris. The approximal contact point and its restoration is a serious point with me. What are we to do to prevent the recurrence of decay? It depends upon whether we have control of the child and of the parents. Many patients claim they exercise proper care of the mouth, and yet we see upon examination that they do not. What can we do? The only man that I know who has such control is Dr. D. D. Smith, and gentlemen, he has; why his patients are afraid of him; they would not dare go in to him and say they used care when they had not. I have had patients of his and they tell me they would be scared to death not to use the most elaborate precaution in the care of their mouth. I have not such control. I wish I knew his secret. In a large measure his success is due to this. I am glad to note the position Dr. Friesell takes in regard to pyorrhea. I have seen the work of many so-called "specialists" in this branch and must admit with the essayist that the cure is often more apparent than real.

How does nature keep teeth in a cleanly and beautiful condition? By continual use, by the mechanical action of the food. When repairing

## SOCIETY DISCUSSIONS

lost tooth structure we must mechanically bring the blood to the soft tissues surrounding to repair them. This I do by using the Bonwill electric mallet, with a rubber point inserted, instead of a plugger. In this manner the action desired is readily controlled. This treatment is in accordance with osteopathic tenets. The gums must be left hugging close to the gingival line.

In pyorrhea, if we extract the teeth affected, the disease is cured. Do we get such practical results from the use of scalers and treatment? Back in the time of President Madison the profession advised against the use of acids in such treatments, and they probably knew as much about pyorrhea then as we do now. I doubt that we can scale above the gingival line and afterwards get a proper healing.

Dr. Rigg's treatment, while empirical, was quite as successful as any we have now, but it was very severe. This severe treatment reminds me of the Indian doctor who had a patient with a very bad boil. After treating it with herbs, etc., with no results, he flashed out his bowie knife and cut it out. The patient at once demanded to know why he had done so. "Well," said the doctor, "I now have a wound, and any old fool can treat a wound."

I am one of the youngest practitioners here, probably, but I would like to ask two questions. The essayist says that decay cannot proceed under the gum margin, and that no matter where it starts it stops when it comes to the gingiva. Did you never find a cavity in which devitalization was necessary, where the gum had grown into the cavity so that it completely filled it. Why did not the gingiva protect that surface? I also want to speak of a case of mine, and am only sorry that I cannot present the patient here at this time. He is a man of about fifty-five. When he presented, pus was oozing around the second upper bicuspid on each side, where a scaler could be passed to the end of the root. The gums had receded and the cementum was exposed. I burred out the cementum towards the apical end as far as possible, then packed the cavity thus obtained with gutta percha and forced the gum to recede as far as possible. I then burred out this portion and filled the whole exposed surface with amalgam. The first tooth thus treated got entirely well, gum color returned to normal and pus flow stopped. I proceeded in this manner from tooth to tooth and now all are well except the two bicuspids first mentioned, and they may heal. Is this not curing the trouble?

I have listened to this paper with a great deal of interest. Dr. Friesell and myself are old college friends, and, as usual, I would like to disagree with him, mostly in regard to pyorrhea. Most scientists claim that it is sys-

## ITEMS OF INTEREST

temic, and when the essayist says it does not occur under healthy gum tissue, he is admitting that diagnosis of the disease. What is a healthy gum tissue? As an illustration we have a ceiling here above us; if we notice a leak through into this room, we could proceed to fill up that hole and stop the leak into this room, but that would not mean that we have cured the trouble. We do not know what may still be occurring on the other side of the ceiling. The same is true of our pyorrhea treatments; we may stop the local symptoms by treatment, but we do not know what systemic conditions may be progressing.

It would seem that we have but one way to restore lost structure in extensive operations without serious encroachments on the gingival tissues, and that is by inlays. I have always maintained that a gold foil filling is the best filling, if it can be made without undue irritation to the surrounding tissues; otherwise it is not. No doubt Dr. Friesell will answer Dr. Roschovsky in a few words, but I will say a word also. Cavities extend in two different directions, superficially and internally. They do not extend superficially under the gingiva, but they may extend internally, thus, by undermining the enamel, it destroys its structure and causes it to break away under the gingiva. This is followed by the subsequent ingress of gum tissue.

**Dr. H. K. Wood.** I have enjoyed the paper, but would like to ask how a ligature may be tied without injuring the soft tissue.

**Dr. S. Ironside.** I would like to ask the essayist what effect has constitutional troubles in pyorrhea, and whether he ever found true pyorrhea in a patient with tuberculosis? Is not 85 per cent. of so-called pyorrhea not pyorrhea at all?

**Dr. Wallace.** I have been much interested in the paper and in the discussions. I agree that there is no decay where there is healthy gum tissue. Between the ages of five and twelve 50 per cent. of the gum conditions are not normal. I am enthusiastic on the question of prophylaxis and I have been in practice sixty-four years. My first operation was in my own mouth. At fifteen I removed the tartar the best I could from my own teeth with a pen-knife and an old file, and ever since then I have been saving my patients' teeth in the same way; and it was only six years ago when I was obliged to have a few of my teeth replaced with a bridge.

**Dr. Zerfing.** I want to thank Dr. Friesell for his excellent paper, and am glad to hear that he has taken up the conservation of the gingival tissues, which are usually so sadly neglected. Probably only one man out of ninety sees the gin-

## SOCIETY DISCUSSIONS

gival tissues at all. They simply see a hole that needs plugging. It behooves us all to awaken; we are all rather dormant, but I do take issue when the essayist says that pyorrhea is not curable. A very large percentage is curable. Where there is once destruction of tissue we cannot restore that, but we can arrest further destruction.

In this trouble the lowering of the vital resistance helps the progress of the local diseases. Some few cases may be constitutional but not many; it can never be cured by constitutional treatment alone, but often is cured by local treatment alone. I presented two cases at the recent University of Pennsylvania clinics, one of which I have been treating for twelve years. When first presented it was a case of so-called pericemental abscesses, that had denuded the root possibly half way to the apical end. There has been no further destruction of tissue since that time, and the roots are now strong and firm. Dr. Freeman said when looking at this case, "Why the gum is the color of a baby's" I see the patient now once a month. The main point is simply to remove all irritating collections.

I wish to congratulate Dr. Friesell on this amplification of the teachings of Dr. Black. When Dr. Friesell says that pyorrhea is incurable, I think he means that the symptoms will not disappear entirely, unless under constant care of the dentist, and, therefore, is not strictly a cure.

What Dr. Zerfing calls a cure I do not. My own patients, where they have returned regularly have lost no teeth, but I do not call that a cure; but in any case of lowered vital resistance the conditions recur, therefore, I say they are not cured.

My own early education was in the East, and the most careful dental instruction was given me. Even at that time scientific investigation as to the cause of pyorrhea was going on, and just so with regard to cavity preparation, and at that time I thought them entirely right. Then when I went West, I gradually came into contact with new ideas, which were hard to accept at first, as all new things are. But when I carefully studied out the conditions, I began to wonder if they were not partially right, and then I gradually was convinced of the truth of their tenets, which are now accepted by over two-thirds of the dentists of the country. I want you men of the East, especially the young men, to read and then re-read the Western Primer of Dentistry, that wonderful book, Dr. Black's *Dental Anatomy*.

I agree with Dr. Zerfing that we are tempted to only treat caries in the majority of cases, which is not modern dentistry. Some horses do not even want to be led to water. Do not be afraid to admit that you are wrong. We should adopt a standard scientific nomenclature; it has



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been too long neglected. My idea of pyorrhea is that it is a septic inflammation of the peridental membrane. If we can remove the pocket we can relieve and remove the pus and organisms and then see the patient frequently enough to remove all irritations, if any. We can keep the condition alleviated, but it is not cured. The cause of it must be treated as a disease. By protecting the gingiva, you will prevent three-fourths of dental troubles. As to mechanically massaging the gums, the best exercise the gingival tissues can receive is from proper energetic mastication. With this and the general acceptance of the oral hygiene movement we will be doing the best of modern dentistry.





### Professional Graft.

Graft may be defined as a means of obtaining money, which, though not actually dishonest, is yet so far from honest that the beneficiary prefers not to have the details of the transaction known. It is evident, therefore, that "graft" is a dishonorable mode of acquiring a fee, or reward, of any kind. No truly professional man would abase himself so low as to become a grafter; hence the title of this editorial may seem anomalous.

In explanation, therefore, it must be declared that "professional graft" means graft accepted by a man who desires that he should be considered professional. Since no man could retain his professional standing and the esteem of his confreres if known as a grafter, it follows logically that the acceptance of graft by men thought to be professional is a secret practice, and as such, both discovery and conviction are always difficult. For this reason, in order to eradicate this evil, first a drastic rule must be added to our code of ethics, and secondly punishment of a convicted offender should be swift and certain.

The chief, if not the only, form of graft practiced by dentists, as by medical men, is the unlawful division of fees. The division of fees, be-

## ITEMS OF INTEREST

tween the general practitioner and the specialist is not in itself unethical; but the secret division of a fee is always unwarranted, immoral and consequently unprofessional. It is the secrecy surrounding the act, therefore by which we may determine the viciousness thereof.

At the last meeting of the American Medical Association the proposed new code of ethics declared that:

**American Medical  
Association  
Rule.**

"It is detrimental to the public good and degrading to the profession, and therefore unprofessional, to give or to receive a commission or to divide a fee for medical advice or surgical treatment, unless the patient or his next friend is fully informed as to the terms of the transaction. The patient should be made to understand that a proper fee should be paid to the family physician for the service he renders in determining the surgical or medical treatment suited to his condition, and in advising concerning those best qualified to render any special service that may be required by the patient."

The above is a perfectly ethical determination of the conduct which should be followed when two or more practitioners attend a single patient. For example, should a patient seek advice of a physician because he is suffering from chronic headaches, and the physician, after examination refers him to an oculist, the physician is entitled to a fee for making the diagnosis, as to the cause of his ache, and for referring him to a specialist competent to cure his pain; but the same physician is not entitled to a commission from the oculist who receives the patient, and for this reason:

Where there is a secret understanding between practitioner and specialist, by which the specialist pays the practitioner a commission for patients referred, then it certainly will follow that the practitioner will choose the specialist to whom he refers his patients, not because of his known skill, but because of the business arrangement between them. Thus the reference is made, not in the interest of the patient, but because of the pecuniary advantage to the practitioner. This is so true that the practitioner, as well as the specialist, keeps the transaction secret, knowing well that the patient would never tolerate such an arrangement if known to him.



It was the discussion of this rule in the proposed code of ethics at Atlantic City, which prompted a prominent New York newspaper to print the following editorial:

**Doctors'  
Temptations.**

"The American Medical Association meeting at Atlantic City has taken up the old question of condemning commissions and divided fees among physicians.

"It is doubtful if anything stronger will ever be said on this subject than the little one-act play which amazed and horrified Paris last season. The piece was called "Dichotomy," which means simply 'division.'

"A young physician newly married to a butterfly sort of wife has a patient whose husband is a very rich man. The diagnosis of the patient's trouble shows tumor, weak heart, operation of very doubtful necessity, in any case dangerous. The operation will mean some 30,000 francs in advance to the distinguished hospital surgeon who will perform it, and 6,000 francs to the young physician if he recommends it. The doctor hesitates, but pressure of bills and his wife's petulant demands for a new dress decide him.

"At the moment of the operation the young doctor weakens, begs the surgeon not to go on, urges the weak heart of the patient. The surgeon, with his fee in his pocket, laughs scornfully, hurries into the operating room and begins his work.

"The patient dies from heart failure at the first shock. The surgeon returns shrugging his shoulders over what he terms an unfortunate accident. The distracted husband, who has overheard enough partly to understand the situation, rushes at him with a scalpel only to be summarily thrown off the premises as a madman, while the surgeon coolly puts on his coat and tucks the fee carefully away in his pocketbook.

"The whole thing is carried out with a realistic gruesomeness of detail that leaves the audience gasping. It aroused a storm of just protest from the French medical profession.

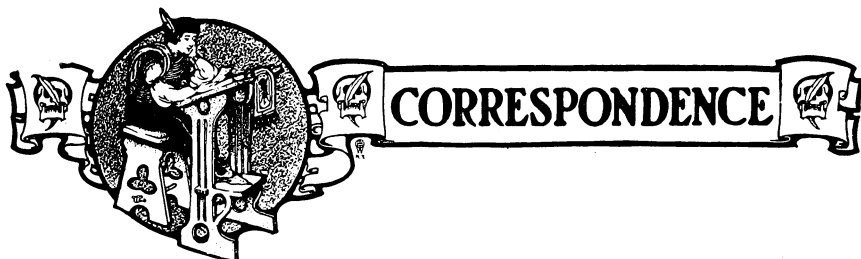
"That such things do happen is possible. General experience in this country, at least, refuses to believe that they are anything but extremely rare. That in these days of high specialization, when one doctor must constantly refer patients to another, even the appearance of dividing fees or commissions should be vigorously condemned, is obvious. Considering the constantly growing number of doctors and their enormous power and discretion as regards the welfare and peace of mind of their millions of patients, the standards of honor and conscientiousness in the profession continue commendably high."



## ITEMS OF INTEREST

The last paragraph of the above is a merited tribute to the honesty of the great body of the medical profession, and it is equally true of the dental. Nevertheless, it is unfortunately also true that as dentistry is more and more divided into specialties, this temptation to secretly divide fees increases, and for this reason measures should be promptly taken to eradicate the pernicious practice.

The American Society of Orthodontists several years ago passed a rule forbidding the giving or receiving of commissions; the Second District Dental Society of the State of New York adopted a similar addition to its code of ethics, but so far as is known to the writer, no other dental organization has done so. After the reorganization of the National Dental Association, it would be well if a new code of ethics were promulgated by that body that would be binding on all of its constituent societies.



### **A Correction**

EDITOR OF ITEMS OF INTEREST,

*My Dear Doctor:* In the July number of *ITEMS OF INTEREST* I find an article from Dr. Haskell on "Some Cases From Practice." In the last few lines you make Dr. Haskell say: "Here was a set of heavy bridgework worn with comfort," etc. Could there have been a mistake in this? The doctor was speaking in regard to continuous gum work. Dr. Haskell is, no doubt, the best living authority on continuous gum work, and if the words "heavy bridgework" is a mistake it ought to be corrected. I believe that Dr. Haskell has been, and is, one of the most remarkable men we have in his specialty.

I am, dear doctor, yours very truly,

H. MAFON PERKINS.

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### **The Dental Holiday Stamp**

EDITOR OF ITEMS OF INTEREST,

*My Dear Doctor:* Your happy suggestion is timely and practical, and if the members of the National Dental Association at the meeting in Washington in September give your suggestion due consideration and take prompt action the holiday season will tell how much interest the dentists of the country take in the movement to help the unfortunate and care for the aged.

The dream of a beautiful home some day may be materialized, but it is the present that demands our best efforts to raise a benevolent fund that will naturally be of slow growth from yearly dues, and occasional gifts. To ask, or demand by vote, an addition to the yearly dues of society members would have chilling effect.

Your suggestion of the holiday stamp calls out the festival spirit and the good will to man obligation. Another suggestion may possibly appeal to thoughtful and charitably disposed dentists, and that is, that every dentist in the country be invited to give one hour's time in the month of October of each year, the money earned, be it much or little, to go to the Dental Benevolent Fund. Surely this is not asking much from healthy profes-



## ITEMS OF INTEREST

sional men. One hour extra in the year, the money earned to give aid, hope and courage to unfortunate brother dentists.

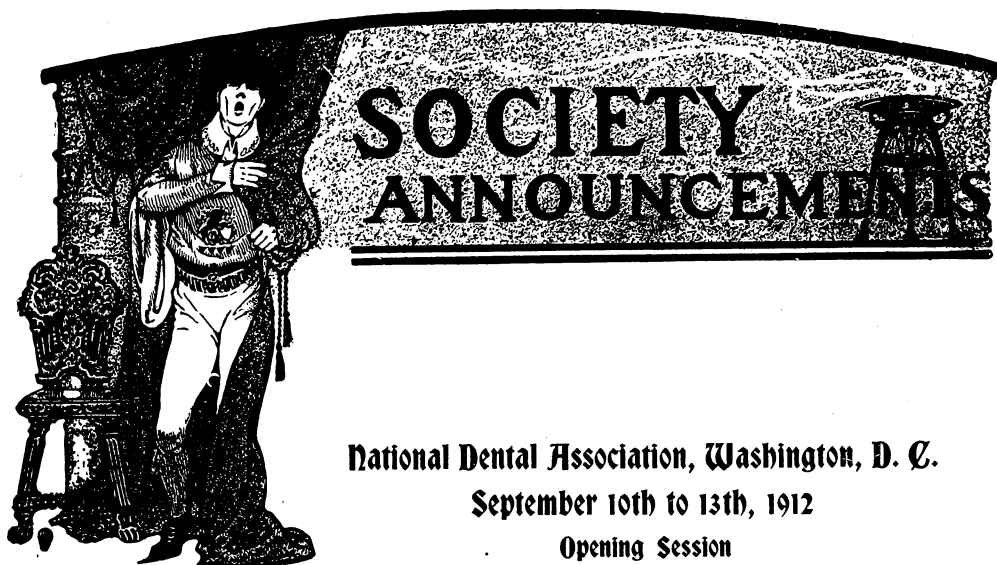
It is claimed that there are nearly forty thousand dentists in the United States. If one thousand, three thousand, five thousand or a possible ten thousand, could be enlisted in this one-hour-a-year charitable work, and the earned fee averaged three dollars, you can easily compute the amount that might yearly be added to the small sum now held by the National Dental Association. The British Dental Benevolent Association, from a comparatively small number of dentists, has done grand work. In many cases of pressing want only temporary assistance is needed, and sympathetic help without publicity gives aid, hope and courage to fight temporary misfortune.

Among the large number of dentists in the United States there surely are many that will join an association of one-hour-a-year benevolent workers if such an association is properly organized.

Do you realize what you may, can and should do?

With best wishes, always very sincerely yours,

JAMES McMANUS



## National Dental Association, Washington, D. C.

September 10th to 13th, 1912

### Opening Session

The association will be called to order at 10 a. m., September 10th, in the convention hall of the New Willard Hotel (Headquarters).

Invocation—Rt. Rev. Alfred Harding, Washington, D. C.

Address of Welcome—Hon. Cuno H. Rudolph, Washington, D. C.

Response to Address of Welcome—Frank O. Hetrick, Ottawa, Kan.

President's Address—Arthur R. Melendy, Knoxville, Tenn.

Modern Dentistry in Germany—Newell S. Jenkins, Dresden, Germany.

#### PROGRAM FOR GENERAL SESSIONS AND SECTIONS.

L. F. Kebler (M. D.).....Washington, D. C.  
Oral Dental Preparations.

F. E. Stewart (M. D.).....Philadelphia, Pa.  
Standardization of Materia Medica.

M. C. Smith.....Lynn, Mass.  
What the Government Is Doing to Prevent Diseases.

William O. Hulick.....Cincinnati, Ohio  
Crown and Bridgework.

J. V. Conzett.....Dubuque, Iowa  
Something About Cavity Preparation for the Gold Inlay.

Leon S. Medalia (M. D.).....Boston, Mass.  
Pyorrhea Alveolaris, Its Causes and Treatment With Vaccine.

George B. Harris.....Detroit, Mich.  
Pyorrhea, Its Treatment by Bacterial Vaccines and Results of Animal Experimentation.

# ITEMS OF INTEREST

- C. M. McCauley.....Abilene, Texas  
The Great Need of Improvement in Quality of Commercial Alloys.
- B. Holly Smith.....Baltimore, Md.  
Aristocracy in Dentistry. Do We Need It?
- W. A. Lovett.....Birmingham, Ala.  
In Hoc Signo Vinces.
- H. H. Johnson.....Macon, Ga.  
Other Methods of Making Gold Inlays.
- W. R. Clack.....Mason City, Iowa  
Extension for Prevention vs. Pin-head Cavities.
- Joseph Head.....Philadelphia, Pa.  
Intimidation of Dentists and Dental Societies.
- J. J. Moffit.....Harrisburg, Pa.  
The Treatment and Filling of Root Canals.
- M. L. Rhein.....New York City  
Oral Sepsis and a Consideration of Its Systemic Effects.
- J. F. Biddle.....Allegheny, Pa.  
Diagnosis and Treatment of the Important Destructive Diseases of the  
Dental Pulp.
- Thomas B. Hartzell.....Minneapolis, Minn.  
Post-Operative Treatment of Pyorrhea Alveolaris.  
(Illustrated by stereopticon.)
- Harvey W. Wiley (M. D.).....Washington, D. C.  
A Consideration of the Effects That Impure Foods and Adulterated  
Drugs Have Upon the Human System.
- George E. Hunt.....Indianapolis, Ind.  
Teeth and Health.

(The last two subjects are to be given as lectures at the Wednesday evening session.)

A preliminary program was mailed to our members, essayists and clinicians August 3d. In addition to above literary program, this contained 270 clinics and a number of additional ones will be incorporated in the official program.

## RAILROAD RATES.

The Trunk Line and New England Passenger Associations have authorized a rate of a fare and three-fifths within their territory on certificate plan—100 certificates required and a fee of 25c. for validating same. The Southeastern Passenger Association advertises round-trip rates from specific points in their territory. Summer tourists' rates to eastern points may be secured in Western Passenger Association territory. The Central Passenger Association refused to make any conces-

## SOCIETY ANNOUNCEMENTS

sion, but Summer Tourists' rates may apply from points in this territory.

Any local railroad agent can give jurisdiction of above associations, as well as give full particulars regarding rates and stop-over privileges from their particular point. Inquiry should be made regarding excursion rates to points east of Washington, as such transportation, with stop-over privileges, may be secured to a better advantage.

The proposed plan of reorganization is not to become effective until 1913, but our present constitution provides that any member of a State Dental Society, or affiliated society, is eligible to the National. The membership fee is \$5.00, which pays one years' dues and includes copy of official transactions. Application blanks may be secured from the State Society Secretaries and must be signed by the President and Secretary and can be mailed in advance, with fee, to H. B. McFadden, Treasurer, 3505 Hamilton Street, Philadelphia, Pa., or handed to him or the Credentials Committee at time of meeting. All reputable practitioners of dentistry are invited to attend this meeting and become actively affiliated with our association.

HOMER C. BROWN, Recording Secretary,  
185 East State Street, Columbus, Ohio.

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### **The Texas State Boards of Dental Examiners**

The next meeting of the Texas State Board of Dental Examiners, for the purpose of examining applicants for a license to practice dentistry and dental surgery in the State of Texas, will be held in Austin, Texas, beginning December 9th, 1912, at 9 a. m.

For application blanks and any further information address  
J. M. MURPHY, Secretary.

Temple, Texas.

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### **Northeastern Dental Association**

The eighteenth annual meeting of the Northeastern Dental Association is to be held in the Crawford House, Crawford Notch, N. H., October 1, 2 and 3, 1912. The officers and committees are doing their best to have a rousing good meeting. Please remember the dates and attend.

ANDREW J. SAWYER,  
President.

EDGAR Q. KINSMAN,  
Secretary.

Cambridge, Mass.



### **Examination of Dentists for the U. S. Army**

The Surgeon General of the Army announces that examinations for the appointment of Acting Dental Surgeons will be held at Fort Slocum, New York; Columbus Barracks, Ohio; Jefferson Barracks, Missouri; Fort Logan, Colorado, and Fort McDowell, California, on Monday, October 7, 1912.

Application blanks and full information concerning these examinations can be procured by addressing the "Surgeon General, U. S. Army, Washington, D. C."

The essential requirements to securing an invitation are that the applicant shall be a citizen of the United States, shall be between twenty-one and twenty-seven years of age, a graduate of a dental school legally authorized to confer the degree of D. D. S., and shall be of good moral character and habits.

Acting Dental Surgeons are employed under a three years' contract, at the rate of \$150 per month. They are entitled to traveling allowances in obeying their first orders, in changing stations, and in returning to their homes at termination of service. They also have the privilege of purchasing certain supplies at the Army Commissary. After three years' service, if found qualified, they are promoted to the grade of dental surgeon with the rank of first lieutenant, and receive thereafter the pay and allowances appertaining to that rank.

In order to perfect all necessary arrangements for the examination, applications must be in the possession of the Surgeon General at least two weeks before the date of the examination. Early attention is therefore enjoined upon all intending applicants. There is at present a large number of vacancies to be filled.